CHAPTER ONE
INTRODUCTION

1.1 Background to the Problem

Current global knowledge and skills economy pre-supposes that secondary school students should be self-reliant graduates, who are equipped in all ramifications for the present world of work. They should be equipped with cognitive skills (hard skills) as well as soft skills ranging from communication, teamwork, problem-solving and leadership skills among others. These skills can be acquired at the secondary school level through the teaching of subjects using the curriculum. Economics, as a secondary school subject, is one such subject that equips secondary school graduates with the relevant skills that enable them to plan and advance the growth of the economy (Federal Republic of Nigeria, 2013). It prepares them to understand and analyse the challenges in the nation's economy and the society at large. Economics helps students to understand and develop basic economic skills needed for self and national development.

The objectives of the Senior Secondary School Economics Curriculum according to the National Education Research Development Council (NERDC), 2008 include: understanding basic economic principles and concepts as well as the tools for sound economic analysis; contributing intelligently to discourse on economic reforms and development as they affect or would affect the generality of Nigerians; appreciation of the role of public policies on national economy; development of skills and appreciation of the basis for rational economic decision; and understanding of the role and status of Nigeria and other African countries in international economic relationships. The extent to which these objectives are achieved is measured in terms of learning outcomes (cognitive, affective and psychomotor).

Learning outcome is seen as what a student can demonstrate (measurable knowledge, skills or attitudes) upon completing a course or program. It is the measurable accomplishment of the curriculum objectives and an alternative means for determining the effectiveness of an educational system (Odunsi and Emunemu, 2014). In recent years, learning outcomes in Economics, measured by students' performance in external

examination in Economics conducted by the West African Examinations Council (WAEC), have been unsatisfactory. In Oke-Ogun, the performance of students in WAEC has been poor with averagepercentage credit: 23.6% (2014), 29.1% (2015), 37,3% (2016) and 31.0%(2017), meaning that it has not attained 50% success rateas can be inferred from Oyo State Ministry of Education, Science and Technology report of 2018). This trendis also reflectedat the nationallevel: 36.39% average percentage credit from 2001-2007 and at the state level: 22.63% average percentage credit from 2004-2017 also inferred from the reports of WAEC (2018) and that of Oyo State Ministry of Education Science and Technology (2018). (appendixes I-III).

Judging from the performance in external examinations, the school system appears not to have been able to achieve the objectives of inculcating the culture of economic literacy in students, and develop in them the entrepreneurial and soft skills that will enable them apply the theoretical knowledge to real life situations and the world of work after school. The term “soft skills”, used interchangeably with “non-technical skills”, is defined as the interpersonal, human, people or behavioural skills needed to apply technical skills and knowledge in the workplace (Weber, Finley, Crawford, and Rivera, 2009). Soft skills are categorised as being related to human issues, such as communication, teamwork, leadership, conflict management, negotiation, professionalism, and ethics (Azim, Gale, Lawlor-Wright, Kirkham, Khan and Alam, 2010).

Soft skills complement hard skills and help to improve students’ academic performance and personality, have slight direct impact on higher learning, but a larger impact on grades in high school, which in turn are strong predictors of career attainment (Asuru and Ogidi, 2013;). Soft skills are important in the re-orientation of education for sustainability as its teaching is a means of developing interpersonal skills in a student by using the subject/academic curriculum. This will help schools produce graduates with rigorous content knowledge and the ability to apply the knowledge successfully (Hanover Research, 2014). Among the broad spectrum of soft skills, this study focused on communication, teamwork (collaboration) and problem-solving skills because of their importance across life course.

Communication skillsinclude how we give and receive information in order to convey our ideas and opinions with those around us. Communication skills are important in

the process of teaching students, interacting with colleagues, parents and administrators in the school environment. Communication which can be done verbally and non-verbally, is the ability that encompasses listening, writing and speaking effectivelywhich are essential in the teaching and learning process (Atoye, 2015). Effective communication is one requiring theapproach where a person has to listen, understand the audience, and be able to clearly articulate his /her thoughts (Mcpheat, 2010:).

Teamwork is an important skill for teachers and students in the learning process. If teachers are good team players, they can induce the same behaviour/skill and attitude among the students (Oyegoke and Arowojolu, 2015). integrating teamwork into the classroom activities has a way of helping students to achieve a comprehensive well-rounded education by motivating them towards achieving team goals or solve a problemMcQuerry (2016).Leading to greater value being placed on academic achievement by the individual, which then results in greater academic performance.

Problem solving skills include the ability of individuals to reason effectively, ask pointed questions and solve problems, analyse and evaluate alternative points of view, and reflect critically on decisions and processes. Trilling and Fadel (2009), define problem solving as the ability to analyse, interpret, evaluate, summarize, synthesize information and proffer solution. Problem-solving skills involve the use of advanced technologies for accessing, manipulating, creating, analysing, managing, storing, and communicating information. The development of these skills in students requires good and competent teachers who will teach the skills effectively.

The poor learning outcomes may also not be unconnected with assessment strategies employed by the teachers. Assessment is important in education as the scores are used to measure students' academic strengths and weaknesses. It involves collecting data with a view to making value judgment about the quality of a person, object, group or event. In Nigeria, assessment started as a summative one-time assessment type, marking the end of a session. Assessment which really is a means to an end was seen as an end in itself. The shortcoming of this one-time assessment led to the concept of continuous assessment (Emeke, 1996; Ahukanna, Onu and Ukah, 2012). Continuous assessment as an approach whereby the final grading of learners in cognitive, affective

and psychomotor domains of learning is systematically taken to show their performance during a given period of schooling.

The benefits of continuous assessment are that, it is guidance oriented; since it involves data gathering over a long period of time, it will yield more accurate data that can indicate to the teacher early enough the need to modify instruction (Idowu and Esere, 2012). It plays a vital role in diagnosing and remediating areas of learners' weakness andIt encourages more teachers' participation in the overall assessment or grading of his or her learner (Omebe, 2010). Continuous assessment is advantageous to the learner because it reveals early to the learner his/her ability, the areas requiring necessary adjustment for improved performance, as well as what the teacher needs to do to enhance students' performance. (Ahukanna, et al, 2012). The shortcomings of continuous assessment are, however, many:the aspiration to attain high scores in tests tended to make some people to misinterpret the purpose of education to be mere passing of examinations has reduced it to continuous testing of the cognitive domain at the expense of the other two domains , the professional unskillfulness of most teachers in test and measurement, studying just the night before an exam, memorization and repetitive learning are also associated with continuous assessment(Azeb, 2013),. It would thus appear that continuous assessment does not develop soft skills in students.

Dochy (2001) and Birgin and Baki, (2007) are of the opinion that alternative assessment strategies are needed to develop not only the cognitive and psychomotor domains, but also the affective domain, which has to do with development of soft-skills in learners. Alternative assessment includes performance and demonstration-based tasks that are carried out in real life settings, while also permitting assessment and instruction to interact and thus help teachers to gain a clearer understanding of their learners' abilities (Al-Mahrooqi and Denman, 2018). journals and diaries, writing folders, teacher observations, portfolio assessment, self-assessment, peer assessment, student-student and teacher–student conferences, audio-visual recordings and checklists, are some forms of alternative assessments mostly used in classrooms activities. In this study, the alternative assessment strategies considered are portfolio assessment and peer assessment as the independent variables.

In portfolio assessment, learning has to be developed by the learners and not imparted by the teachers while schools can then give accurate information about students, show

their strengths and weaknesses and help teachers to plan and teach progressively (Boyd and Vitzelio, 2010; Banta, 2007). This assessment is a thoughtful compilation of any part of a student's work which is kept in a permanent dossier or container that indicates students' improvement, progress, and achievement, to the student or parents (Javanmard and Farahani, 2012). To Suwaed (2018), appraising of portfolio can intensify the students' participation in and ownership of their own learning which provides the students opportunities to become actively involved in assessment and learning, entails effective gathering, integrating and arranging likely significant assignments or projects to indicate the accomplishment of the learning objectives that demand on-going assessment, reflection, and justification. In the process of preparing an assessment portfolio, learning is enhanced as students are encouraged to reflect on their experience, identify learning needs and initiate further learning and skills.

Peer assessment, on the other hand, requires students to provide either feedback or grades (or both) to their peers on a product or a performance, based on the criteria of excellence for that product or event which students may have been involved in determining (Falchikov, 2007). Peer assessment is a procedure where students make assessment decisions on other students' work. It can be linked to reflective practice as it involves self-development within a group, it plays an important role in formative assessment and can also be used as a component for summative assessment (Reese-Durham, 2015). Peer assessment offers feedback between students and also allows students to make comparisons with each other. They individually assess each other's contribution using a predetermined list of criteria. Scoring is based on established process, which involves using an average of the marks awarded by members of the group. Peer learning hinges on the cognitive apprenticeship model, while creating the opportunity for the students to help each other to understand the gaps in their learning and to grasp the learning process better.

Both Portfolio and Peer assessments motivate students to take part in and embrace a reflective approach to learning as they allow for reflection, feedback, and integration of assessment into learning. Portfolio and peer assessment foster intrinsic motivation, responsibility, and ownership; promote student-teacher interaction with the teacher as facilitator; individualise learning and celebrate the uniqueness of each individual; offer opportunities for collaborative work with peers; permit assessment of multiple

dimensions of language learning; use several assessors, increase students' confidence; and facilitate critical thinking, self-assessment, and revision processes (Orsmond, 2011; Oyelekan, 2014). In this study, portfolio and peer assessment are for formative purposes. They were used to plan and focus the work of the students in line with the expected learning outcomes and are effective when used by a competent teacher.The expected learning outcomes, which form the dependent variables in this study, include students' achievement and soft-skills (teamwork, problem-solving and communication skills)

Teacher competence however matters for students' learning outcomes as a competent teacher enhances a teacher's ability to create an environment that is fairr and accepting to diverse students, ideas, experiences, and backgrounds. According to Akiri and Ugborugbo (2009), teacher competence is regarded as a multi-dimensional construct which encompasses numerous interconnected elements towards transformation of knowledge to learners and is viewed as the major factor determining students' learning outcomes. (Odumbe, Simatwa and Ayolo, 2015). In view of the fairly overwhelming attribution of the role of teacher's competence in learning, this study adopts teachers' competence as the first moderator variable. It encompasses such interrelated constructs like preparation of lesson note, knowledge of content, instructional material utilization, classroom management, and questioning technique which help the transference of knowledge to the learners.

A second moderator variable employed in this study is school type; private and public. While public schools are government owned, private schools are owned by non-governmental agencies, individuals or associations. Some researchers argue that, public school students perform well if not better than those from private schools; while some dispute that,say that private school students perform better than students in public schools. The argument on school type and academic performance will be inconclusive because different scholars use different factors every time and at different study areas. This may also impact assessment strategies, soft skills acquisition and learning outcomes in Economics as investigated in this study.

1.2 Statement of the Problem

Economics is a subject that deals with production, consumption, distribution of wealth which involves the analysis of social relations, decision- making and managerial effectiveness. As contained in the senior secondary school Economics curriculum, Economics should be used to teach and develop in individuals such skills as decision-making, critical thinking, effective planning and problem solving skills in the allocation and use of scarce resources to engender self and national development.

However, students' poor performance in Economics in public examinations as revealed by the statistics in recent years suggest that little contributions can be expected from secondary school leaverswith respect to national economic growth and development. It shows that students find the subject difficult to earn up to 50% success rate in WASCE.This trend indicates that the objectives of teaching the subject have not been fully met.

Previous researches have largely focused on how variables such as home factors, teacher factors, students' attitudes, teaching methods, school factors, school location could engender better students' learning outcomes in Economics. Also, in a bid to improve learning outcomes in Economics, other researchers have focused on improving classroom assessment and effective implementation of continuous assessment. Despite all these efforts, the trend of students' poor performance still lingers. The poor performance of Oyo State students in Economics at the secondary school level is evident in its position among the 36 states and FCT in public examinations in recent years

Portfolio and peer assessment strategies have been found to be teaching and learning strategies which are learner-centred and could be used to enhance learning outcomes. These assessment strategiesprovide for active students' participation and construction of knowledge. Available literature has shown that portfolio assessment and peer assessment when properly used either individually or together can promotestudent'slearning outcomes as well as provide assessment information, to guide instructional decision-making and acquisition of knowledge and skill in secondary school subjects like Physics, Geography and English language. However, literature revealed that not much has been done as regardsEconomics.

Most of the reviewed works showed that only one assessment strategywas investigatedwhile focusing on the cognitive domain of learning. Furthermore, none of these studies examined the effect of both portfolio and peer assessment methods. Review of relevant literature showed dearth of studies that examined the cognitive and the affective domains for improvement of academic performance and soft skills of students.

Consequently, the study investigated the effects of portfolio and peer assessment strategies on students' learning outcomes (achievement and soft skills) in Economics in Oke-Ogun area of Oyo State. The study also examined the effects of teacher competence and school type on students' learning outcomes in Economics in the area of location.

1.3 Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

H_{01}: There is no significant main effect of treatment (Portfolio Assessment, Peer Assessment, and Continuous Assessment) on

a. students' achievement in Economics.
b. students' soft skills (communication, problem-solving and teamwork).

H_{02}: There is no significant main effect of teacher competence on

a. students' achievement in Economics.

b. students' soft skills (communication, problem-solving and teamwork).

Ho_3: There is no significant main effect of school type (private and public) on:

a. students' achievement in Economics.

b. students' soft skills (communication, problem-solving and teamwork).

H_{04}: There is no significant interaction effect of treatment (Portfolio Assessment, Peer Assessment and Continuous Assessment) and teacher competence on:

a. students' achievement in Economics.
b. students' soft skills (communication, problem-solving and teamwork).

H_{05}: There is no significant interaction effect of treatment (Portfolio Assessment, Peer Assessment and Continuous Assessment) and school type (private and public) on:

a. students' achievement in Economics.
b. students' soft skills (communication, problem-solving and teamwork).

H_{06}: There is no significant interaction effect of teacher competence and school type (private and public) on:

a. students' achievement in Economics.
b. students' soft skills (communication, problem-solving and teamwork).

H_{07}: There is no significant interaction effect of treatment (Portfolio Assessment, Peer Assessment and Continuous Assessment), teacher competence and school type (private and public) on:

a. students' achievement in Economics.
b. students' soft skills (communication, problem-solving and teamwork).

1.4 Scope of the Study

The study investigated the effect of portfolio and peer assessment strategies on students' learning outcomes (achievement and soft skills) in Economics among senior secondary school two(SSII) students that they have been sufficiently exposed to the Economics curriculum, from co-educational schools in both public and private schools from Oke-Ogun area of Oyo-state. The moderating effects of teacher competence and school type on the dependent variables were also examined.

1.5 Significance of the Study

Findings from this study showed thepotency of adopting the use of portfolio and peer assessment strategies and how these could lead to improved students' learning outcomes in Economics.

The results of this study would be particularly useful for teachers to help them use portfolio and peer assessment strategies to show students' progress over time for both formative and summative assessment, thereby reducing students stress, anxiety and pressure of continuous testing. The use of the alternative assessment strategies would help improve the quality of secondary school graduates being admitted to tertiary institutions arising from the development of soft skills through the teaching and learning process.

Furthermore, such knowledge would be of immense benefits in drawing training plans for teachers and even reviewing the teacher-training curriculum to inculcate the development and use of students' soft skills. The research findings would also expand the frontiers of research as other researchers can use this work as a baseline study and a point of reference on which they can improve on.

The findings would also be of value to school managers and administrators as the knowledge and use of portfolio and peer assessment strategies would bring improvement on the students' academic performance and enhance development of soft skills.

The findings would help parents understand and see the improvement of their child/children/wards in the cognitive domain and development of their soft skills. It would help parents understand the strengths and weaknesses of their children.

Knowledge of the findings from this study wold help policy makers to reassess the assessment methods used in the secondary schools and apply portfolio and peer assessment strategies to improve and enhance academic performance and soft skills of students for this present knowledge and skills economy and add to the body of knowledge on the effects of portfolio assessment and peer assessment on students' learning outcomes.

1.6 Operational Definition of Terms

Assessment: This is made up of students' scores generated from portfolio assessment, peer assessment and continuous assessment that were used to measure students' academic strengths and weaknesses using the assessment strategies.

Portfolio Assessment in Economics: This is the aggregate score of students generated from the collection of their assignments and presentations through the use of PortfolioAssessmentPackage.

Peer Assessment in Economics: This is made up of scores generated from individual students' task in group of at least 5-10 members measured through Peer Assessment Package.

Conventional (Continuous) Assessment in Economic: This is made up of students' scores generated from School Prepared Assessment using the conventional assessment package.

Achievement in Economics: This is made up of the students' scores emanating from the economic achievement objective test (EAOT) and economic achievement essay test (EAET) instruments that were administered to studentsas pre-test and post-test.

Soft Skills: These are communication, teamwork and problem solving skills on which scores are generated from students' soft skills scale (SSSS) and students' soft skills test (SSST) instruments administered to the students as pre-test and post-test.

Teacher competence: This is the measure of teacher's lesson preparation, knowledge content, instructional material utilization, classroom management and questioning abilities using the teacher competence instrument (TCI) used to observed teachers while teaching.

School Type: These are co-educational public and private school used in this study.

Learning outcomes in Economics: These are the measure of the dependent variables (achievement and soft skills) using students' scores obtained from economic achievement objective test (EAOT) and economic achievement essay test (EAET) (for achievement) and students' soft skills scale (SSSS) and students' soft skills test (SSST) (for soft skills) instruments administered to the students as pre-test and post-test.

Acronyms

PfA: Portfolio Assessment

PeA: Peer Assessment

CoA: Continuous (Conventional) Assessment

PFAIP: Portfolio Assessment Instructional Package

PAIP: Peer Assessment Instructional Package

CAIP: Conventional Assessment Instructional Package

EAOT: Economics Achievement Objective Test

EAET: Economics Achievement Essay Test

SSSS: Students' Soft Skills Scale

SSST: Students' Soft Skills Test

TCOS: Teachers' Competence Observation Sheet

LGA: Local Government Area

CHAPTER TWO

LITERATURE REVIEW

Based on the variables used in this study, this chapter reviewed scholarly literature considered relevant under the following sub-headings:

2.1 Theoretical Background

2.2 Conceptual Review

2.3 Empirical Review

2.4 Conceptual Framework

2.5 Appraisal of Literature reviewed and Gaps Filled

2.1. Theoretical Background

2.1.1 Constructivism Theory

The theory of constructivism is generally credited to Jean Piaget who stated procedures by which knowledge is internalised by learners. Piaget (1952 and 1971) submitted that through the processes of adjustment and integration, individuals construct new knowledge from their experiences. When individuals assimilate, they integrate the new experience into an already existing framework without changing the framework. This may occur when individuals' experiences are linked with their internal version of the world, but may also occur as a failure to change a flawed understanding (Wilson and Cole, 1991).

Constructivism theory holds the view that learning takes place regardless of learners using their experience to understand a lesson or follow instructions but suggests that they should create facts out of their experiences (Bhattacharje, 2015). In Constructivism, learning in a person is established by reflecting on our experiences through the creation of rules and mental models and altering them to adjust to new experiences. To the theory, alteration is the method of modifying one's mental image of the outside world to fit new experiences and by so doing we adjust and reframe our model of the way the world works thereby learning from the experience of one's failure or others' failure.

There are numerous guiding principles of constructivism. These include; Learning is a search for significance. Learning thus, must begin with the issues around which the students are vigorously trying to create meaning; Meaning requires comprehending whole as well as parts. Parts must be understood in the context of wholes. Therefore, the learning process focuses on basic concepts, not remote facts.To teach well, the rational ways that students use to observe the world and the expectations must be understood.To make assessment part of the learning process, thereby affording the student opportunity to construct his or her own meaning (Christie, 2005).

Constructivist learning is a rationalisation ensuing from proofs to specific conclusion, meaning that students participate in activities by which they develop skills and acquire ideas. According to Good and Brophy (1994), in constructivist learning, learners are not passive but have the ability to form new knowledge from the previous one,

appraise and question, test and observe, accept or cast-off knowledge and viewpoints in order to develop. The constructivist process of learning works best in social environment where students have the chance to measure up their ideas as they attempt to resolve differing ideas. Although social interaction is frequently accomplished in small group activities, discussions within the entire class provide students the opportunity to vocalize their knowledge and to learn from others (Sharma, 2006). Therefore, meaningful learning develops through tasks that are more authentic and activities that can replicate those that will be combated in real life through assignment.

Constructivism believes that knowledge must be from a prior knowledge and cannot be communicated without the child making sense of it while the teacher guides the students. This previous knowledge is called a schema. Because all learning is streamed through pre-existing schemata, constructivists suggest that learning is more effective when a student is actively involved in the learning process rather than trying to receive knowledge passively (Swan, 2005).

The following concepts are considered as central to the constructivist instructional design (Wilson and Cole, 1991). Learning is entrenched in a rich authentic problem-solving atmosphere; Authentic as opposed to academic settings for learning are provided; Facilities for learner control are integrated; Mistakes are used as a tool to offer feedback on learners' understanding and Learning is rooted in social experience.

Constructivist Learning is important to learning as it usesencourages the use ofseveral views and representations of ideas and content are encouraged. The goals and objectives are derived by the student or in cooperation with the teacher or system,Teachers serve as guides, monitors, coaches, tutors and facilitators; Activities, opportunities, tools and environments are provided to encourage meta-cognition,self-analysis, self-regulation, self-reflection and self-awareness; The student plays a central role in mediating and controlling learning; Learning situations, environments, skills, content and tasks are relevant, realistic, and authentic and represent the natural complexities of the real world; Primary sources of data are used in order to ensure authenticity and real-world complexity; Knowledge construction and not reproduction is emphasized ; This construction takes place in individual contexts and through social negotiation, collaboration and experience (Sharma, 2006;Bhattacharje, 2015).

Constructivism likewise encouragesthe use of learner's previous knowledge constructions, beliefs and attitudes are considered in the knowledge construction process; Problem-solving, higher-order thinking skills and deep understanding are emphasized; Errors provide the opportunity for insight into students' previous knowledge constructions; Exploration is a favoured approach in order to encourage students to seek knowledge independently and to manage the pursuit of their goals; Learners are provided with the opportunity for apprenticeship learning in which there is an increasing complexity of tasks, skills and knowledge acquisition; Knowledge complexity is reflected and emphasis is on conceptual interrelatedness and interdisciplinary learning; Collaborative and cooperative learning are favoured in order to expose the learner to alternative viewpoints; Scaffolding is facilitated to help students perform just beyond the limits of their ability and Assessment is authentic and interwoven with teaching (Swan, 2005;.Christie, 2005)

In the constructivist classroom, students work, learn, collaborate and are actively involved in knowledge creation. Emphasis are placed on social and communication skills, as well as collaboration and exchange of ideas which is contrary to the traditional classroom in which students work primarily alone, where learning is attained by replication, subjects are meticulously followed and are guided by a textbook.

constructivist classrooms encouragethe use of Experimentation: Students individually perform an experiment and then come together as a class to discuss the results.Research projects: Students research a topic and can present their findings to the class.Field trips: This allows students to put the concepts and ideas discussed in class in a real world context. Field trips would often be followed by class discussions.Films: These provide visual context and thus bring another sense into the learning experience.Class discussions: This technique is used in all of the methods described above. It is one of the most important distinctions of constructivist teaching methods.Collaboration: Constructivism involves collaboration between instructors, students and others (community members). It is tailored to meet the needs and purposes of individual learners. Through this approach, life-long learning takes place (Sharma, 2006;Swan, 2005).

The teacher's function in a constructivist classroom is not restricted to teaching students but to act as an expert who can guide students into adopting cognitive strategies such as self-testing, articulating understanding, asking probing questions, and reflection (Swan, 2005). It is to organise information around big ideas that engage the students' interest, to assist students in developing new insights, and to connect them with their previous learning. The activities are student-centered, and students are encouraged to ask their own questions, carry out their own experiments, make their own analogies, and come to their own conclusions (Sharma, 2006). Constructivist teaching is based on constructivist learning theory. Constructivist teaching is grounded on the premise that learning ensues when learners are energetically involved in meaningful knowledge construction instead of passively receiving information. In Constructivism, teaching encourages critical thinking, and produces motivated and self-determine learners.

A constructivist approach to education is widely accepted by most researchers, though not by all. Some claim that constructivism in schools is mostly reduced to project based learning and others assert that constructivism encourages very unproductive learning and assessment procedures. In any event, the truth is that constructivism is seldom used in schools (Sharma, 2006). In constructivist learning, the teacher’s function is to coordinate the learning environment such that students learn proposed and intended activities which involve meticulous planning and preparation time (Gagne, 1985).

Jonassen cited in Bhattacharje (2015) reported that several educators and cognitive Psychologists have used constructivism to the improvement of learning environments. From these applications, Jonassen has isolated a number of design principles which are to produce real-world environments that use the setting in which learning is pertinent,concentrate on lifelike approaches to solve real-world problems,the instructor teaches and examine approaches used to solve these problems,emphasise conceptual interrelatedness, affording manifold version or views on the content,iinstructional goals and objectives should be discussed and not forced,assessment ought to operate as a self-reflection device,pprovide tools and environments that help learners understand the various viewpoints of the world,learning should be internally controlled and facilitated by the learner.

Constructivism inspires teachers while they urge students to frequently gauge how the activity is assisting them increase understanding. By inquisition and planning, students in the constructivist classroom become expert learners, giving them ever-broadening tools to keep learning. With a well-planned classroom environment, the students learn how to learn.

In a constructivist learning approach, teacher provides divers learning situations to the learners and the students' part change from knowledge procurement to knowledge building. Learning is a procedure of creating knowledge. Learners enthusiastically construct their own knowledge by linking new ideas to current ideas centred on materials/ activities given to them (Bhattacharje, 2015). Involvement of the learners to appropriate activity promotes constructing and reformation of ideas. Collaborative learning gives chances for sharing of several opinions and discussion of meaning. Individually and in a group learners construct meaning associated to an experience or thing or an occurrence as he/ she learns (Christie, 2005; Bhattacharje, 2015).

The teacher permits students to ask questions connected to what they are learning in school, and urges them to answer in their own words and from their own experiences. Intellectual deducing is allowed as an effective instructional tool. Learner queried teachers and other students' ideas, offers calculated guess about an event, develop test to investigate his/ her own ideas, formulates and tests hypothesis and discusses results. He/ she relate that findings and results with those of the others, draws objective deductions, applies the new ideas to known circumstances and known theories to new situations. The learner confirms and corroborates his/ her own views and concepts, establishes results and processes and explains and infer from the text. Learner imbibes the practise of self-directed learning. Constructivism also assists students in following personal interests and ideas. In this approach, learners use and develop his or her skills or competencies.

Jonassen cited in Bhattacharje (2015), summarised the effects of constructivism for instructional strategy to be the fact that constructivism affords students with many accounts of realism, emphases knowledge on production and not regurgitation, contextualizes assignments, nurtures philosophical practice and backs collaborative construction of knowledge through social compromise. Constructivist theory clamour for a change in the classroom culture, attitudes, beliefs and practices. noteworthy

features of constructivist theories are revealed to contain the idea that learning is dynamic, social and located in specific physical, social and cognitive settings, that it includes the on-going growth of complex and interconnected mental structures, and that the construction of knowledge is more or less distributed across individuals, tools and things.

There are many implications of constructivism for instruction, the most vital is to change the emphasis of teaching design away from instruction towards learning circumstances that are learner-centered, knowledge-centered, assessment-centered, and community centered (Christie, 2005; Bhattacharje,2015). Constructivism moves importance from teaching to learning, concentrates on knowledge construction, not reproduction, helps students develop practises, skills and attitudes, individualizes and contextualizes students learning experiences, take into account students' learning styles, uses authentic assignments to occupy learners, stimulates problem-based thinking, entails conciliation of meaning, consideration of previous and new knowledge and increases students' knowledge outside subject matter given to them (Bhattacharje, 2015).

2.1.2. Theory of Multiple Intelligences

The theory of Multiple Intelligences was established by Howard Gardner, Ph.D., Professor of Education at Harvard University (Gardner, 1999a). Gardner's initial work in psychology and human cognition and human potential, led to the development of the initial six intelligences which later increased to nine intelligences. These intelligences (or competencies) are associated to a person's distinctive talent/skill and methods they might choose to exhibit intellectual abilities. Gardner established a set of principles/ norms which were drawn from quite a few sources. These sources and their corresponding objects / subjects of interest include;Psychology: the presence of a distinct progressive past ability and the presence of relationship (or lack of correlations) between certain abilities; Observations of unusual human beings: individuals who were geniuses, gurus, or who exhibited learning disabilities; Anthropology: ethnographic records of how different abilities are developed, ignored, or prized in different cultures; Cultural studies: the existence of symbol systems that encode certain kinds of meanings; Biological sciences: evidence that a capacity is

represented in particular neural structures and Evidence of a distinct evolutionary history for a particular capacity (Armstrong, 2010).

Equipped with these measures, Gardner considered many capacities, ranging from those based in the senses, to those having to do with planning, to such potentials as sense of humour. To the degree that a candidate's ability met all or most of the criteria closely, it gained credibility as intelligence. In 1983, seven candidate intelligences met the criteria satisfactorily well. These were linguistic, logical-mathematical, musical, spatial, bodily kinaesthetic, interpersonal, and intrapersonal (Gardner 1983). In 1995, invoking new data that fit the criteria, an eighth intelligence which is naturalist was added and later the ninth, existential intelligence, one that captures the human tendency to raise and consider important questions about existence, life, death, finitude, was added (Gardner, 1999).

These Gardner's Multiple Intelligences include Verbal-linguistic intelligence (well-developed verbal skills and sensitivity to the sounds, meanings and rhythms of words); Logical-mathematical intelligence (ability to think conceptually and abstractly, and capacity to discern logical and numerical patterns); Spatial-visual intelligence (capacity to think in images and pictures, to visualize accurately and abstractly); Bodily-kinesthetic intelligence (ability to control one's body movements and to handle objects skilfully); Musical intelligences (ability to produce and appreciate rhythm, pitch and timber); Interpersonal intelligence (capacity to detect and respond appropriately to the moods, motivations and desires of others); Intrapersonal (capacity to be self-aware and in tune with inner feelings, values, beliefs and thinking processes); Naturalist intelligence (ability to recognize and categorize plants, animals and other objects in nature) and Existential intelligence (sensitivity and capacity to tackle deep questions about human existence such as what is the meaning of life? why do we die? how did we get here? (Gardner, 2010)

Gardner's emphasis was on human abilities that lie in the fact that people have a distinctive array of capabilities and skills (intelligences). Gardner claims that people who have an affinity toward one of the intelligences do so in concert with the other intelligences as they develop skills and solve problems (www.businessballs.com). Gardner's theory of multiple intelligences can be used for curriculum development, planning instruction, selection of course activities, and related assessment strategies.

The instruction is intended to help students improve their strengths and spark their poise to develop areas in which they are weak. Students' multiple learning inclinations can be addressed when instruction includes variety of significant and suitable methods, activities, and assessments (Gardner, 2010; Howard,2017).

In the theory of Multiple Intelligence two claims were made, the first being that, all human beings have all of these intelligences and secondly, display diverse profiles of intelligences. This is because, even in the case of the same genetic heritage, individuals undergo different encounters and strive to differentiate their profiles from one another (Gardner, 2010). The theory endeavours to centre the idea of intelligence on a comprehensive scientific footing, to offer a set of tools to educators that will allow more individuals to master fundamental materials in an effective way, and to help each individual reach his or her human potential. It encourages student engagement and learning.

From the above stated, it is evident that, educators are concerned in involving students during the teaching and learning process. The teachers are stimulated to help students gain new perception into what is being taught by using real life situations while students are encouraged to form their own opinion from the knowledge gained and use the skills acquired to solve real life problems. The using of portfolio assessment and peer assessment to improve the soft skills to students are methods of developing an independent individual who will be able to use the knowledge gained, skill taught and developed in the classroom to survive in the real world (Howard,2010).

2.2 Conceptual Background

2.2.1 Concept of Economics

Economics as a subject has been described by different authors according to the way they view the nature of Economics. Economics is defined by Ogbonna (2014) as the study on value, prices, interest rate, unemployment, inflation, profit, budget deficit, trade deficit, exchange rates and so on. David (2003) is of the view that Economics studies how people determine what, how and for whom to produce. David sees goods and services as things consumed or enjoyed only at the instant they are produced. This explanation by David (2003) placed Economics as a social science that analyses and describes behaviour of humans. Aruka (2015) viewed Economics as the study of

people who apportion their limited resource to provide for their numerous wants or needs. This means that Economics seeks help to resolve the struggle between limitless requirements for goods and services and the insufficiency of resources with which those goods can be produced. Aspers (1999) defined Economics as study of man's deeds in the everyday business of life, which takes into account people's income and logical expenses owing to the knowledge of Economics. Agu (2009) sawEconomics as the arrangement and delivery of goods, service and the actions of man that connects to his income.

Ardalan (2016) viewed Economics as a social science concerned with how people, either individually or in groups, endeavour to adjust scarce resource of their needs over production substitution and exchange process. Economicsbeing a vital subject is why Shizgal (2012) supposes that Economics is the study of distribution of limited resources among alternative and contending ends. Ogbonna (2014) stated that Economics is important to study because it makes it easier to introduce real actions to promote welfare. Economics is the study of the distribution of means among alternate expenditures to satiate human wants. It is saddled with the responsibility of using limited resources to satisfy these wants, and it deals with production, exchange, allocation as well as utilization of goods and services and of the behaviour of many other economic actions by individuals, organizations and the state (Adu, 2012).

Economics is taught in the senior classes in Nigerian secondary schools. It is directed at letting students comprehend today's economic situation across a mastery of its theories and hands-on usage in daily lives. The teaching of Economics provides a learner with the chances to live meaningfully within the shifting economic realm. The following are the objectives or achievable outcomes of teaching Economics:To arm students with the basic principles of Economics essential for valuable living and higher education;To make and inspire students to be practical and effective in the managing of insufficient resources;To promote student's respect for the dignity of labour and admiration of economic, cultural and social values of our own society; andTo enable students to obtain knowledge for the everyday solution of the economic difficulties of the society (Asper, 1999; David, 2003).

According to Adu, et al. (2008) and Adu (2012), some reasons for studying Economics are as follows:The study of Economics allows a student to appreciate the kind of

intricacy of the economic activities, in which he is only a very small part.It facilitates students' acceptance and appreciation of various governments polices where selections have to be made; such as whether or not to spend more money on free education and therefore provide less employment opportunities.The study of Economics affords students the basic skills for studying economic problems, thereby preparing them better for positions where economic decisions have to be made; The study of Economics assists government to encourage growth and advancement, therefore, improving the quality of life of the citizens; Knowledge of Economics is valuable to study captivating models of socio-economic behaviour.The study of Economics is useful to comprehend and modify the disparities in the distribution of earnings and prospects (Miller,2013).

Economics teachers time and again find it challenging to eradicate prejudice and objectivity while teaching the students. They try to impact the choice of the students to suit their personal interest, and this is common when teachers are teaching topics like consumer behaviour, division of labour, inflation, etc. This upsets the students' viewpoint as students cannot differentiate amid fact and opinion. Teachers often do choose topics centred on personal interest and the extent to which the topics are of interest to them. The choice of topic to be taught is therefore being induced by their subjectivity (Adu, 2012)).

There had been disagreement over the teaching of Economics in secondary school. This was based on the premise that Economics is too difficult to teach. The claim is that, since the power to make inference and engage in mental reasoning does not usually develop much before the age of sixteen, Economics cannot be efficiently taught to students before this age (Ogbebor, 2017).At lower level, Economics should be constructed using variety of measures to make it simple, but caution should be taken not to further create vagueness which may lead to the elimination of some advanced theory from the syllabus if the inclination is to teach what the student would understand. Examples are Oligopoly and Monopolistic competition. An effort to remove these from secondary schools syllabus because it involves analysis, which may be too complex for the students, and a focus on Perfect Competition and Monopoly, both of which do not exist anywhere in real life, would have defeated the aim of

teaching the students about the real world where Oligopoly and Monopolistic Competition are dominant (Ogbonna, 2014).

Every society is confronted with the three major economic problems of what to produce, how to produce, and for whom to produce? These problems can find solutions through Economics, and possibly are solved through the study of Economics. Economics has been generally recognised by many countries to the level that many students are now writing examination in it at the end of their Senior Secondary school level. In other words, the need for Economics as foci teaching and learning subject from school level is a signal that Economics has a major effect on the student as a well-informed citizen of the society (Oyedeji, 2000).

2.2.2 The Concept of Assessment

Assessment is the decided method in the classroom to gather data, both qualitative and quantitative about the student (Yoloye, Aimakhu and Adeleke, 2005). To teachers, the idea of assessment is to make pronouncement about students either as a group or as individuals. These could be in terms of identifying problems, substantiating learning after instruction, recognising prerequisite learning and deciding where to start a learning series centred on what the students'' prior knowledge is (Eggen and Kauchack, 2002). According to Yoloye, Aimakhu and Adeleke (2005), assessment is the constant practice of gathering and assessing evidence to decide if and how well performance equals learning or service prospect.

Odinko (2014) asserted that assessment of learner's progress is integral to the curriculum and instruction as it helps to plan instruction for individual and group, to communicate with families, to identify children who may need specialized services or intervention and to inform program development. Therefore, for assessment to be truly effective, it must be meaningful, reflective and self-regulated. It should provide feedback on content or skill deficiencies, embrace higher level learning, stimulate real world experiences and include multiple domains (Adeyemi, 2008).

Assessment is a vital activity as it gives students feedback on their performance, helps them appraise their own learning and helps the teacher improve the strength of instruction. The elementary stages in any assessment method are identifying, setting targets and writing objectives, identifying assessment method, identifying, choosing an

assessment item and technique, administering assessment and analysing the data judgement formation, grading and sharing the results with students (Odinko, 2014). Assessment may also be entrenched as routine class or curricular activity. Class task/project is connected to students' learning outcomes through marking and assessment mechanism (common test questions, projects or writing assignments). Entrenched assessment can also make available formative information for instructional advancement and students' learning requirements (Alkharusi, 2008).

Brown and Abeywickrama (2010) stated that there exist diverse data types needed for assessment of learning outcomes. These are: qualitative data, quantitative data, direct data, indirect data and embedded data. Qualitative data are descriptive information such as narratives or portfolios. These data are regularly amassed using open-ended questions, feedback surveys or summary reports and may be tough to compare, copy and generalise but are useful in identifying areas for mediation and possible solutions that are not distinct in quantitative data (Ajuonuma, 2006). Quantitative data on the other hand are tangible numbers (scores, rates, etc.) to define quantities of a value. They can be used to transform qualitative data into numerical or statistical values by using the Likert scale responses which give numerical values to responses (4=strongly agree to 1= strongly disagree). They are easy to store and manage but must be carefully constructed to be valid. Direct data gives proof of students' learning outcomes. A mathematics test, for example, directly measures a student's ability in mathematics. Indirect data are also called secondary data because they indirectly measure students' performance. For instance, diploma or degree achievement data shows indirect indication of students' learning outcome but not what the student really learnt (Alotaibi, 2011).

There are three types of assessment according to Hanna and Dettmer (2004). These are diagnostic, formative, and summative. Diagnostic assessment can assist a teacher recognise students' current knowledge of a subject, their skill sets and proficiencies, and to elucidate misunderstanding before teaching takes place (Just Science Now, n.d.). Understanding students' strengths and weaknesses can help a teacher to better plan what to teach and how to teach it. Types of diagnostic assessment include:Pre-tests (on subject matter and skills); Self-assessments (identifying skills and competencies); Discussion board responses (on content-specific prompts) and

Interviews (brief, private, 10-minute interview of each student) (Dochy, 2001; Foster and Masters, 2010)

Formative assessment offers feedback and information for the period of the instructional procedure, while learning is taking place and happening. Formative assessment measures student improvement but it can also be used to judge a teacher's own progress as an instructor. For instance, when executing a new activity in class, a teacher can, through observation and/or by surveying the students, decide if the activity should be used again or altered (Gronlund, 2006, Odinko, 2014). The major emphasis of formative assessment is to discover areas that may need enhancement. These assessments usually are not scored and act as a measure of students' learning improvement and to establish teaching effectiveness (applying suitable methods and activities).

formative assessment types of assessmentincludes: Observations of students during in-class activities for non-verbal feedbacks; Homework exercises as consideration for exams and class discussions; Reflectionsand journals that are studied intermittently during the semester; Question and answer sessions, both formal (planned) and informal (spontaneous); Conferences between the instructor and student at various points in the semester; In-class activities where students informally present their results; Student feedback collected by periodically answering specific question about the instruction and their self-evaluation of performance and progress (Hanna and Detter, 2004; Igbinedion and Epumepu, 2011).

Summative assessment occurs after the learning has been completed and gives information and feedback that sums up the teaching and learning process. Characteristically, no formal learning is taking place at this stage other than incidental learning which might take place through the conclusion of projects and assignments. Instructions, often established around a set of standards or expectations, can be used for summative assessment. Guidelines can be given to students before they begin working on a particular project so they know what is required of them (exactly what they have to do) for each of the criteria. Instructions aid the objectivity when getting a final, summative grade by following the same standards students used to finish the project (Linn and Miller, 2005; McMullian, 2006).

High-stakes summative assessments are normally given to students at the end of a set point during or at the end of the semester to assess what has been learnt and how well it was learnt. Grades are usually an outcome of summative assessment. They signify whether the student has a satisfactory level of knowledge-gain and if the student is able to effectively progress to the next part of the class, to the next course in the curriculum, or to the next level of academic standing (Miller, 2013; Odinko, 2014).

Summative assessment is more product-oriented and assesses the final product, whereas formative assessment focuses on the process toward completing the product. When the project is completed, no further adjustment can be made. If, however, students are allowed to make adjustment, the assessment becomes formative, where students can take the benefit of the chance to improve. Types of summative assessment are;Examinations (major, high-stakes exams); Final examination (a truly summative assessment); Term papers (drafts submitted throughout the semester would be a formative assessment); Projects (project phases submitted at various completion points could be formatively assessed); Portfolios (could also be assessed during its development as a formative assessment); Student evaluation of the course (teaching effectiveness)and Instructor self-evaluation (Omebe, 2010; Omebe, 2014)

Assessment measures if and how students are learning, and if the teaching methods are actually imparting the intended messages. Hanna and Dettmer (2004) suggested that teachers should endeavour to acquire array of assessment approaches that match all aspects of their instructional plans. Instead of trying to differentiate between formative and summative assessments, it may be more beneficial to begin planning assessment strategies to match instructional goals and objectives at the beginning of the semester and implement them throughout the entire instructional experience. Assessment is at the core of education as the test scores of assessment are used to measure students' academic strengths and weaknesses (Ojerinde, 2009). The scores from assessment are used to judge the quality of the educational system. Hence, assessment can be said to be germane to the teaching-learning processes.

2.2.3 Concept of Portfolio Assessment

A portfolio is a compendium of a student's work, showing proof of the achievement of knowledge, skills, suitable attitudes and proficiency advancement through a habit of self-reflection over a period of time (Davis and Ponnamperuma, 2009). A portfolio is a decisive gathering of student assignments that discloses student achievement or growth (Nhi and Mai, 2018). Portfolios are alternative methods of assessment as they signify actual learning activities going on in the classroom. Portfolios are the cases/folders in which students' scores in assignments and projects are kept (Chiseri-Strater, 1992).

Portfolio assessment shows array of skills and intelligences, backs instructional goals, uses student and teacher reflection, shows transformations and progress over a period and arrange for continuity in education from one year to the next (Birgin and Baki, 2007). It functions as a means for on-going evaluation (formative) whereby a teacher chooses portfolio samples from the variety of daily and weekly assignments that students engage in.

Portfolios started as a compendium of artists' collections works and has evolved to being used to show competencies in various disciplines. In reaction to the clamour for alternative and more authentic assessment practices, portfolios have become a preferred alternative to the traditional assessment methods (Mayer and Tusin, 1999). Founded on the constructivist theories, that encourage learning to be constructed by the learners themselves, instead of being impacted by the teachers, portfolio assessment expects students to provide proof with justification showing relevant learning to the subject objective has occurred (Steffe and Gale, 1995).

Biggs (1996) and Nhi and Mai (2018) posited that planning portfolio assessment involves vigorous collecting, synthesizing and organizing appropriate items to provide proof of achievement of the learning objectives involving on-going assessment, reflection and justification. It is likewise assumed that, all through the process of preparing an assessment portfolio, learning is enhanced as reflection is encouraged,

needs are identified while further learning is initiated. (Harris, Dolan, and Fairbairn, 2001).

In the words of Snadden and Thomas (2009), the reason of portfolio maybe for:Learning (Formative): this involves using portfolio as a tool for on-going student development by encouraging learning through allowing students to own and select portfolio content while teacher gives mentorship and Assessment (Summative): this includes the use of portfolio to confirm success/failure at a particular course of study through the demonstration of achievement in a subject through a test/ examination.

In both the learning and assessment (portfolios), the teachers are mentors, providing guidelines and assisting to focus students' work with the expected learning outcomes and thereafter, the improvement of students are shown to depict success or failure.

In education, pportfolios includes proof (paper or digital) of how learners achieve tasks (recommended or given) and improvement. Irrespective of content and format, portfolios provide information on work done, feedback received, progress made, and ideas for improving proficiency (Denzin and Lincoln 2000; Driessen et al., 2007; Tartwijk and Driessen, 2009). An assessment portfolio is the methodical gathering and appraisal of student work measured against pre-set scoring standards, such as scoring guides, rubrics, checklists, or rating scales (Norcini and Burch, 2007 and Lockyer and Clyman, 2008), which is why it is considered criterion-referenced assessment.

Portfolios portray a continuous picture of student improvement, instead of a snapshot of student achievement that single-occasion tests provide. Subject to school requirements, portfolios can include performance-based assessments, such as writing samples that exemplify different genres; answers to math problems showing problem-solving ability; lab reports indicating knowledge of a scientific approach; or Economics project reports depicting the ability to use multiple sources (Driessen, et al. 2003; Webb et al, 2003; Tigelaar, Dolmans, Wolf Hagen and van der Vleutenl, 2005).

In portfolio assessment approach, it is not obligatory for students to come up with one correct answer but to assess the effect the new information has on their thinking, providing detailed feedback, encourages personal growth, creative activities, and social responsibility divergent to traditional assessment methods. This approach uses student-centered evaluation based upon information from multiple sources, and multiple

evaluation methods (performance and portfolio assessment, etc.) and tools (rubrics, checklists, attitude scales, scoring guides, etc.) (Amsami, Mohammed and Mazila, 2015).

Although, portfolio is used in the assessment of student's performance nowadays, it differs according to users' purpose and usage. Essentially, portfolio should be multisource, authentic, forms of dynamic assessment, explicit in purpose, establish a correspondence between program activities and life experiences, be based on student's ownership and multi-purposed (Barton and Collins, 1997). Therefore, portfolios should be on going so that they show the students' efforts, progress, and achievement over a period of time. Thus in this study portfolio is described as a methodical and determined compilation of the proof reflecting success, presentation, and efforts of the students in Economics.

The primary act is to determine the reason for the portfolio. The purpose of the portfolio which could be for formative or summative, will affects the method by which the portfolio is produced which in turn determines the item in it. When clearly stated it can be used for education purposes that can be structured on users' demand. To a teacher, the aim would be to assess student progress, determine teaching efficiency, connect with parents, evaluate the education program, connect school and the community, help students self-assess and determine student weakness in the learning process (De Fina, 1992).

In organising portfolio, the information to gather include who collects the works, how often they will be collected, and how they will be assessed. Discussing with students about the works to store in the portfolio is important as it encourages them to be responsible and to own their works. Involving students during the selection of the contents to be included in a portfolio is important because it enables the students to have feelings of responsibility and possession (Nhi and Mai, 2018). There are no precise guidelines for contents of a portfolio but the quality depends on whether it is by a teacher or student, meaning that it varies depending on its users or purposes.

According to De Fina (1997), the contents of a portfolio, should be student-centered; students' priorities should be predetermined while the purpose for collecting the items should be kept in mind and teachers should be facilitator and guide, ensuring that it

includes cross-curricular sampling of items that indicate cognitive, behavioural, affective, meta-cognitive and developmental dimensions of a single but complex competence such as problem solving or effective communications. In the course of organising a portfolio, the difference in cognitive, affective, and psychomotor skills, as well as different experiences, social environments and socio-economic levels of students as an individual or group should be reflected (Suwaed, 2018).

It is very important to fix the standards for assessing the portfolio as this assessment criterion allows students to identify, and choose work that is considered as high quality, allows and encourages deliberations among teachers, students, and others regarding the performance and quality of performance. The assessment criteria should use rubrics to determine the quality of the student's performance and this must be clear and easy to understand, making for a dependable and acceptable assessment (ugodulunwa and Wakjissa, 2015).

It is stimulating for teachers to make portfolios an essential part of their instructions and to achieve this, De Fina (1992) made some suggestions which include the following:Teachers, students, parents and school administrations should be involved in deciding which items would be placed in it.The purpose (for what and for whom) should be clear. The items should vary and be multi-dimensional, reflecting the actual day-to-day learning activities of students;It should be on-going, showing students' efforts, progress, and achievements over a period.; Items should be methodically, decisively and meaningfully collected; Students should be given opportunities to select pieces most representative of themselves as learners and to establish criteria for their selections while keeping their portfolios up to date; Share the criteria that will be used to assess the work in the portfolio as well as in which the result are to be used and Teachers should give feedback to students and parents about the use of portfolio (Birgin, 2007; Zhang, 2009).

In summary, in the process of developing a portfolio, students' ideas should be taken, there should be a purpose, assessment should be clearly explained and the process should cover a certain period. Portfolio should encourage students to learn, and items in it should be multi-dimensional and addressing different learning areas.

There has been no clear-cut way or method for the assessment of portfolios. However, some different methods can be used with respect to the aims of the portfolios. (i) If the purpose of a portfolio is to improve the students' learning and to diagnose his/her learning needs, then the works in the portfolio usually are determined by teachers (Birgin, 2003), and the student is given a feedback for his/her works by teachers and peers. (ii) If the purpose of the portfolio is to assess the student's improvement over a course of study, provide evidence for grades, then, the portfolio should contain some standard works to be selected by students and assessed by teachers in terms of predetermined criteria (Birgin, 2003; Birgin and Baki, 2007).

The goal of portfolio grading is to show improvement as well as quality that meets standard rubric-like criteria. Portfolio grading focuses on both the learning process as well as the quality of assignment/projects (Melograno, 2000; Çepni and Çil, 2006). Thus, portfolios are graded as a whole, and each item in a portfolio can be used to display student's best works or provide evidence for a student's self-assessment of his or her learning process and growth.

There are different approaches to grade portfolios. Kuhs (1994) stated that three basic methodologies can be used. The first is to evaluate each piece of work in the portfolio and average those grades to determine the portfolio grade. The second is to use an analytic scheme where separate grades are given for different performance. For example, a teacher might review the portfolio and give one grade each for problem solving, ability to communicate mathematical ideas, to carry out procedures accurately, to demonstrate insight and understanding of ideas, and to apply mathematics in problem solving situations. Unlike in the first approach, this approach is based on reviewing several pieces of work in the portfolio. The third method is the focused-holistic method, where a single score is determined for student's works by focusing on several dimensions of performance. This method allows the teachers to give a single grade for all pieces contained in the portfolio.

Types of portfolios vary in accordance with their purposes and the items collected in them. Researchers have identified different types of portfolio. For example, according to Haladyna (1997), there are five types of portfolios which are: ideal, showcase, documentation, evaluation, and class portfolio. The ideal portfolio contains all students' works which are not graded by students. The showcase portfolio contains

only the students' best works selected by students to reflect their work; they are not assessed or graded. The documentation portfolio contains quality works of students collected over time to show growth reflecting learning of identified outcomes. The evaluation portfolio which is suitable for summative purposes includes a standardized collection of students' work and could be determined by the teacher or in some cases, by the student, while the class portfolio contains student's grade, teacher's view and knowledge about students in the classroom.

To Slater (1996), there are three types of portfolio: showcase, open-format and checklist portfolio. A showcase portfolio is a limited portfolio where a student is only allowed to present a few pieces of evidence to establish mastery of learning objectives. In an open-format portfolio, students are allowed to submit anything they wish to be considered as evidence for mastery of a given list of learning objectives. A checklist portfolio is composed of a predetermined number of items which are assignments student should complete. Melograno (2000) identifies nine types of portfolios. These types of portfolios are not exhaustive and can be used separately or in combination. These classifications include Personal portfolio: For students and teachers to form a more holistic view about students and to celebrate their interests, items may be included from within and outside school. The portfolio could contain pictures, awards, videos, or other memorabilia. The personal portfolio serves as a catalyst for self-reflection and sharing (Birgin and Baki, 2007).

The on-going, systematic collection of student work samples and exhibits can be maintained in a working portfolio. This collection of daily, weekly, monthly, or unit work produces this type of portfolio.This type of portfolio is usually kept by teachers. It contains necessary assessment samples and records that may be required (e.g. written exams, proficiency tests). It could also include observational information (e.g. anecdotal notes, frequency index scales, narrative descriptors, behaviour checklists) and progress reports that supplement traditional report cards.Each member of a cooperative learning group contributes individual items along with group items (e.g., samples, pictures, community project) to demonstrate the effectiveness of the entire group. This portfolio would relate to a unit of study with a particular focus, normally lasting from 2 to 6 weeks. For example, if a portfolio is constructed related to Rational

Numbers, Force unit, this portfolio could reflect cognitive and affective skills and their views about these units (Baki and Birgin, 2004; Birgin and Baki, 2007).

To view the whole student's works from all disciplines showing connections between or among subjects, an integrated portfolio is used. Selected items, either required or optional, could be drawn from several or all subjects. For example, this portfolio can be prepared in math and science courses. A limited number of items are selected to exhibit growth over time and to serve a particular purpose. Usually, only the student's best works are included. For instance, in Vermont and Kentucky, at the beginning of the 1990s, this type of portfolio was implemented for mathematics and writing in grades 4 and 8. In both states, portfolios was supposed to contain five to seven examples of the students' best work during the school year and scores are to reflect optimum performance.

Technological advancement has brought about electronic portfolios. This involves the use of technology to capture and store information in the form of text, graphics, sound, and video and students can save writing samples, solutions to mathematics problems, samples of art work, science projects and multimedia presentations in one coherent document (Birgin, 2003). Electronic portfolios offer many advantages such as to collect, and store, and manage the information electronically according to traditional portfolios. In recent years, because of the educational opportunities supported with the technological development, electronic portfolios are used for many more things (Baki and Birgin 2004; Korkmaz, and Kaptan, 2005). Students would collect items from a cluster of classes over 2, 3, or 4 year intervals (JSS1-3 or SSS1-3). The multiyear portfolio would be stored at the school. For example, this portfolio can be used to follow students' progress periodically during primary and secondary school and university education.

From the afore-mentioned, it can be seen that types of portfolio depend on the way a researcher views it, but they all can be collapsed into three major types which are product, process and showcase portfolio. Therefore, a teacher should select and use any which is in line with the objectives/goals to achieve.

Portfolio affords students an array of perspective of learning process, enables continuous feedback, allow self-assessment and appraisal of their progress (De Fina,

1992). It provides holistic assessment of students' interest, skills, successes and weaknesses while developing important abilities such as self-assessment, critical thinking and monitoring one's own learning (Baki and Birgin, 2004). Furthermore, portfolio provides teachers the opportunity to assess their own learning and growth, help them become self-directed and reflective practitioners, and contribute to their individual and professional developments (Mokhtari, Yellin, Bull and Montgomery, 1996; Birgin, 2007). Mullin (1998) stressed, that portfolio helps teachers to have new perspective in the teaching and learning process.

Portfolio assessment enables the teacher to measure high-level skills with meaningful and realistic activities for students instead of measuring low-level skills in a limited-time, using multi assessment methods instead of using only one measurement method, making assessment not sometimes but continuous and determining the student's weaknesses and strengths. Besides, it also encourages students to participate in the assessment process actively and to have effective communication with teacher and parents (Ugodulunwa and Wakjissa, 2015).

Portfolio assessment method also has many benefits for teacher, parents and students. Making use of portfolios effectively depends on using their purpose properly. Many of theoretical and empirical studies in literature reported the superiority of portfolio assessment to traditional assessment tools in education (De Fina, 1992; Kuhs, 1994; Gilman, et al., 1995; Barton and Collins, 1997; Mullin, 1998; Klenowski, 2000; Sewell, et al., 2002; Birgin, 2003; Baki and Birgin, 2004; Birgin, 2003).

Despite the advantages of portfolio, it has some disadvantages which should be considered in its development and use. Birgin and Baki (2007) highlighted the disadvantages and precautions to overcome them. One is that scoring a portfolio may be seen as less reliable or fair when compared to multiple choices test scores. When detailed, clear, and measurable criteria for each item are used in portfolios, the reliability of portfolios can increase, if not, it will be pointless collection of works not showing students' growth or achievement accurately. Thus, the purpose and assessment criteria of portfolios should be explained, detailed and clearly stated (Birgin and Baki, 2007).

Another disadvantage of using portfolio is that, it is very time consuming for teachers to score and assess students' works and performance over time in the crowded classroom (Birgin, 2003). Therefore, it is suggested that checklists, rubrics and digital portfolio form should be used to reduce time for the assessment (Birgin, 2003; De Fina, 1992). Since data from portfolio assessments can be difficult to analyze, checklists and observation can be used to facilitate the analyses process (Chen, Liu, Ou, and Song, 2000; Birgin, 2003).

When comparing students' performance and schools by considering the portfolio scores, questions such as "whom did the study belong to?", "did the student do this work with someone else or alone? etc. are sometimes discussed which may cause anxiety about the validity and reliability of the portfolio assessment, To overcome this, students' performance should be followed by teachers continuously and they should be required to present their works (Birgin and Baki, 2007 and Herman and Winters, 1994).

Developing portfolio assessment criteria and rubrics, determining the works in portfolio, organising and assessing the portfolio and giving feedback to students can be difficult and time consuming (Stecher, 1998). The problems of how to store, handle and control the portfolios in the crowded classroom and asking students to bring their portfolio materials to each class can be burdensome, this can be overcome through the use of electronic portfolios (e-portfolios) which can be stored, handled and controlled easily (Chen, et al., 2000; Baki and Birgin, 2004).

Another problem of portfolio assessment is parental or community support for such a new and unfamiliar system of assessment. Most parents are used to their child receiving a letter grade on a report card at the end of a term. Such a change could be difficult for parents to accept or adjust to without considerable effort to educate them as to the nature and advantages of the new system (Birgin and Baki, 2007). Parents should be an essential part of this assessment process, and be included as equal partners and stakeholders.

The most important disadvantage of portfolios is its demands on teachers, such as professional development time to learn portfolio, preparation time to create new materials and lessons, to produce and refine portfolio pieces (Birgin, 2003; Birgin and

Baki, 2007). Teachers also need additional time for reviewing and commenting on students' work. Such kinds of requirements force teachers to develop themselves in their fields. However, research shows that some teachers see portfolios as a worthwhile burden with tangible results in instruction and student motivation (Herman and Winters, 1994; Stecher, 1998). To overcome this, teachers who tend to use portfolios should be educated before they commence its use as well as be assisted and supported in the portfolio application process by experts.

In summary, portfolio assessment provides more reliable, dependable and valid assessment of students' achievement and comprehensive views of students' performances. In contexts, it encourages students to develop independently and become self-directed learners. It enhances communication among teacher, student and parents, provides opportunities for learners to demonstrate their weakness and strengths and for teachers to direct their teaching. It also encourages students to take responsibility for their own learning and enhances effective student-teacher communication. In addition, portfolio assessment has a potential to demonstrate students' learning process thereby giving detailed information about students' development in learning process to teacher, parents and students themselves.

2.2.4 Concepts of Peer Assessment

Peer assessment is an interactive type of assessment in which learners work with their teachers to achieve set goal (Wikstrom, 2007). Topping (2010) defines Peer-assessment as an educational process where students evaluate and specify the level, value, or quality of an assignment/project or performance of other equal-status learners quantitatively and/or qualitatively and which stimulates students to reflect, discuss and collaborate. Falchikov (2005) viewed it as the process of having the readers critically reflect upon, and perhaps suggest grades for the learning of their peers through the application of criteria.

Several scholars are of the opinion that, two types of peer-assessment exist and they have been characterized as either formative or summative. One type of peer-assessment, known as formative assessment, provides feedback and aims at filling the gap between current and desired performance (Karami *et al,* 2015). In formative peer-assessment, needs of the learners are of great importance while in summative peer

assessment results are important. Wen and Tsai (2006) referred to formative assessment as students' learning needs and summative peer-assessment as the needs of the society to evaluate the end result of schooling. In formative assessment instructors will be able to answer the needs of the learners during the learning process and they will be able to focus on different parts which impede their learning, but in summative assessment, the result of the teaching and learning process is important. In the teaching and learning process, these 2 types of peer-assessment overlap.

In peer assessment, peers play the role of assessors or/and assess, evaluate and judge the quality of performance of other similar status learners (Van Zundert, Sluijsmans and van Merriënboer, 2010; Davies and Le Mahieu, 2003). According to the procedures of peer-assessment, student-student and student-teacher interactions improve and friend's ideas and opinions will be known better (Falchikov 2005). Teachers and students are actively involved, have control over the assessment methods and outcomes. (Van Zundert, et al, 2010).

For the assessor, training in peer assessment seeks to develop the ability of asking logical, adaptive questions, reflecting, teaching and judging the results of the assignment/project, this actively involves increased time on task: thinking, comparing, contrasting, and communicating (Davies and Le Mahieu, 2003). In short, peer assessment involves the assessor in reviewing, summarizing, clarifying, giving feedback, diagnosing misconceived knowledge, identifying missing knowledge, and considering deviations from the ideal.

These are all cognitively demanding activities that could help to strengthen, support, and intensify understanding in the assessor. Topping (2010) was of the opinion that assessors should be trained to question, prompt, and support instead of only providing theoretically right answer and offering simple correctional feedback (which only identifies an error and/or supplies the correct answer). Therefore, other forms of feedback like reinforcing feedback, didactic explanations, and suggestive feedback should be used.

For the assessed, criteria for assessment should be discussed and agreed on, while there should be clarity on what constitutes quality work. Access to existing examples of assessed work can also help students understand the attributes of good and poor work;

promote the critical thinking and quality of work. Peer assessment also involves norm referencing, allowing a student to position himself or herself in relation to the performance of peers (through accurate self-assessment) and to set learning goals and deadlines. Peer assessment reveals the next small step(s) needed to improve quality, makes available swifter feedback in greater quantity, prevents strengthening of mistakes and providing feedback that could prompt higher order thinking.

Feedback is relative to effective learning in various circumstances as it produces greater degree of productive time on task and reduces cumulative error (Falchikov, 2005). Although, peer feedback might not be of the high quality expected from teacher, its greater immediacy, frequency, and quantity compensate for this. However, feedback is useful only when recipients act upon it. The assessors should be trained on giving simple summative, correctional, or didactic feedback as these are associated with much lower effect sizes than open-ended, suggestive, and formative feedback. Confirmatory or corroborative feedback is also important, since one might be correct without knowing whether or why one is correct.

Feedback (corrective, confirmatory, or suggestive) could be more immediate, timely, and individualized. This might increase reflection and generalization to new situations, promoting self-assessment and greater metacognitive self-awareness. Cognitive and metacognitive benefits might accrue before, during, or after the peer assessment. Falchikov (2005) noted that sleeper effects are possible. Both assessors and those being assessed might experience initial anxiety about the process. However, peer assessment involves students directly in the learning process and may promote a sense of ownership, personal responsibility, and motivation. Giving positive feedback first might reduce assessee's anxiety and improve acceptance of negative feedback. Peer assessment might also increase variety and interest, activity and interactivity, identification and bonding, self-confidence, and empathy for others (Topping, 2010).

However, it should be noted that, teacher's feedback is beneficial for students at low skill levels as it also can be detrimental for students at high levels of skill. Likewise, researches have shown that, males and females respond differently to positive and negative feedback and differently to feedback from adults and peers (Oyelekan, 2014; Topping, 2010). Therefore, different types of feedback can have different effects on different students.

In a review of the wider literature on peer-assisted learning, Topping (2010) noted that, cognitively, peer assessment might create effects by increasing a number of variables for assessors, assesses, or both. These variables could include levels of time on task, engagement, and practice, coupled with a greater sense of accountability and responsibility. Formative peer assessment is likely to involve intelligent questioning, together with increased self-disclosure and, thereby, assessment of understanding. Peer assessment could enable earlier error and misconception identification and analysis. This could lead to the identification of knowledge gaps and to the engineering of their closure through explaining, simplifying, clarifying, summarizing, reorganizing, and cognitive restructuring.

Peer assessment can give students greater insight into established assessment processes, thereby allowing them to develop more confidence in these processes and greater acceptance of the unavoidable problems of criticism (Groebner, Shannon, Fry and Smith, 2005). It has been contended that peer assessment is not costly in terms of teacher time and that peers are in ready supply (Topping, 2010) but Falchikov (2005) caution that there might be no saving of time in the short to medium term, since establishing good-quality peer assessment requires time for organization, training, and monitoring. If the peer assessment is to be supplementary rather than substitutional, then no saving is possible, and extra costs or opportunity costs will be incurred. However, there might be metacognitive benefits for staff as well as students as this can lead them to scrutinize and clarify assessment objectives and purposes, criteria, and marking scales (Liu and Carless, 2006). Peer assessment can also aid in the development of teamwork skills, communication skills, negotiation skills, social and assertion skills and promote active rather than passive learning (Van Zundert, et al, 2010). Student practice in peer evaluation could facilitate subsequent employee evaluation skills and development of transferable professional skills.

Some authors have reported disadvantages or problems with their implementation of peer assessment. Students might not be willing to accept any responsibility for assessing their peers, especially initially, in a small socially unified group or if they see it as inappropriate/unsuitable (Falchikov, 2005; Davies and Le Mahieu, 2003). Wikstrom (2007) noted that though, peer assessment might yield added value, student groups can be inhibited and constrained, and there could be abuse and use of peer

power. Thus, peer assessment is not a universal panacea, or necessarily a cheaper alternative to traditional assessment as it is also ridden with issues of reliability and validity.

2.2.5. Concepts of Teacher Competence

Competence refers to the potential, ability and/or capability to function/perform in a given situation. It is also the ability to perform a specific task, action or function successfully and create unique standards within disciplines and specialties. According to Verma, Paterson and Medves (2006), competence (which can be acquired through talent, experience, or training) in education create an environment that promotes enablement, responsibility, and performance evaluation, which is reliable and fair.

Schacter and Thum (2004) viewed competence as a standard evaluation process that assesses a participant's actual ability to meet pre-set standards under organised situations and practices. It can be described as multifaceted combination of knowledge, skills, understanding, values, attitudes and desire which lead to effective, exemplified human action in a specific domain' (Akiri and Ugborugbo, 2009). In a teacher, competence develops over time and includes:expectations about learning, the ideas about education,society's expectations of, and demands on the teacher, available resources, priorities and political will, the status of the profession, perceived external or international pressures, existing traditions and culture and the broader societal context and environment in which teaching and teacher education occur (Al-Mutari, 2011).

The range and complexity of competencies required for teaching in the 21st century is so great that it is also useful to distinguish between teaching competencies and teacher competencies (OECD, 2011). Teaching competencies are focused on the role of the teacher in the classroom, directly linked with the craft of teaching, with professional knowledge and skills mobilised for action (Bedilu, 2015). Teacher competencies involve a broader, general view of teacher knowhow on multiple levels, which are the individual, the school, the local community and professional networks. Although

temperaments are important for both competence sets (teaching and teacher competence), they play a critical part for teacher competence, as it affects attitudes to continuous career development, innovation and collaboration. These two competencies (teaching and teacher) interconnected in theory and practice, as they are concerned with the professional lives and experiences of teachers.

Competencies are habitual patterns of behaving and thinking that enable teachers to improve students' learning through good instructional skills and content knowledge. There are two divergent approaches to defining teachers' competencies. In one, competence means a set of conscious, trainable skills and abilities that make a teacher effective, while in the other, competence focus on the context of variability, uniqueness of each and every educational situation, a pool of knowledge, personal qualities (responsibility and ethical engagement) and educational techniques (Ugbe and Agim,2009).

Teacher competence improves a teacher's ability to form an environment that is fair, understanding, and accepting of different students, ideas, experiences, and backgrounds. Bedilu (2015) categorised competencies as key competence, basic competence and special competence, and these can be used to evaluate a teacher. Key competencies are needed for performing any professional activity, which includes information/communication competencies, social-working competencies (ability of a person to make independent professional decisions, to combine his/her personal interest with the interests of a society), language competencies (capability for oral and written communication in different languages), merits of an individual as such, cultural competence (familiarity with national and world culture).

Basic competencies are the specifics of the teaching profession, these include organizational competencies (ability of a teacher to successfully organize educational activities of students), didactic competencies (ability of a teacher to transfer knowledge to students in a way that will make them interested in the learning process), pedagogical thinking (reflexive ability of a teacher related to his/her own activities and the planned activities), cognitive-creative competencies (ability of a teacher to organize a process of learning with students, to harmonize the goals of teaching with cognitive abilities of a student). Others are psychological competence (ability of a teacher to respect a unique personality of a student in the teaching process), evaluative

competencies (ability of a teacher to objectively look upon students' achievements and the learning process, his/her own work, professional work of colleagues, positive and negative aspects in the system of education in its entirety), advisory competencies, competence for a lifelong development of a teacher as a professional (ability of a teacher to develop professional skills, knowledge and competencies during his/her entire career).

Special competencies represent the level of skilfulness of teachers in the content of the subject they teach and for the research of their own practice, in order to create one's own style of teaching for better achievements of students. According to Akiri and Ugborugbo (2009), teacher competence is regarded as a multidimensional construct teaching which encompasses numerous interconnected elements towards transformation of knowledge to learners. Previous studies conducted by Schacter and Thum (2004), Adediwura and Bada (2007) and Adu and Olatundun, (2007) simplifies the elements of teacher competence to include teacher's subject knowledge, teaching skills, teacher's attitude and teacher's attendance

According to Eggen and Kauchak (2002), there are three measures of teachers' knowledge of subject matter, these are: content knowledge, pedagogical knowledge of content, and general knowledge. The implications of these dimensions are that a teacher cannot teach what he or she does not know. Furthermore, Adediwura and Bada (2007) emphasised the relationship between what teachers' subject knowledge is and what they teach students, meaning that the ability of a teacher to teach effectively depends on the depth of knowledge the teacher possesses. Therefore, a teacher with an understanding of the subject content is thorough and uses clearer expressions comparative to those whose backgrounds of subject mastery are weaker.

The teaching skills of a teacher are seen in the teacher's abilities in understanding and conversion of knowledge and ideas imparted to learners (Ganyaupfu, 2013). Teaching requires understanding the effects of the topic and subject of a particular discipline i.e. comprehension of purpose. The roles of teachers and schools are changing, and so are skills required of them. Teachers are expected to teach in increasingly multicultural classrooms, incorporate students with special needs, use ICT for teaching effectively, engage in evaluation and accountability processes, and involve parents in schools (OECD, 2011). Furthermore, they are to help students acquire not only the skills that are easiest to teach and easiest to test but more importantly, ways of thinking (creativity, critical thinking, problem-solving, decision-making and learning), ways of working (communication and collaboration), tools for working (including information and communications technologies), and skills around citizenship, life and career and personal and social responsibility for success in modern democracies (OECD, 2011).

Moreover, the teacher's ability to distinguish the knowledge base of his or her teaching, the teacher's capacity to transform content knowledge into practices that are pedagogically influential and adaptive to numerous students' abilities and backgrounds are issues that have to do with teaching skills (Glatthorn, 1990). Transformations require combination and effective presentation of ideas in the form of new analogies and metaphors, instructional selections, adjustment of student materials and activities that reflect characteristics of students' learning styles and tailoring of variations to students in classrooms. In summary, for a teacher to have good teaching skills, he/she should understand students' distinct abilities, languages, cultures, motivations and

prior knowledge and skills that affect their responses to different forms of representations.

Teachers' attitude refers to propensity by the teacher to react in a particular way which can both be positive or negative toward an academic matter and affect students' academic achievements (Eggen and Kauchak, 2002). Study by Fazio and Roskes (1994) revealed that attitude has both cognitive and emotional elements that intensely impact a teacher's response to specific situation. Another study by Brunning, Schraw and Ronning (1999) suggested various elements that constitute teachers' attitudes and facilitates a caring and supportive classroom environment; these include caring, enthusiasm, teaching efficacy, democratic practices to promote students' responsibility, effective use of lesson note, constructive interaction with learners and high expectation to promote learners' motivation; all these elements are associated with increase in students' academic performances.

Manlove and Elliott (1977) and Eggen and Kauchak (2002) found that high teacher absenteeism affects negatively the academic performance of students. This means that there is a correlation between teachers' attendance and students' achievement as revealed in studies by Schacter and Thum (2004), Adediwura and Bada (2007) and Adu and Olatundun, (2007) purported that the higher the teacher attendance rate becomes, the better the students' academic performances.

Kimberly (2009) stated that teachers must be knowledgeable in their areas of study. In truth, if a teacher is not enlightened in his/her subject, then any hope of effectiveness is not guaranteed. Anderson (1991) opined that the teacher must possess the knowledge of the subject content and skills needed to attain the goal and must be able to use that knowledge and skills if the goals are to be achieved. Magala (2011) on the other hand, was of the view that teacher subject's competence represents a dynamic combination of knowledge, understanding, skills, abilities and values in handling the subject matter.

Furthermore, researchers have argued that teacher subject's competence is a function of teacher qualifications (Aghenta, 2000). However, subject's competence or knowledge of a teacher in teaching seems to depend largely on teacher qualification. The assertion was supported by (Mullen cited in Adeyemi and Adu, 2012) with the

argument that the level of a teacher subject's competence is a prime predictor of students' learning achievement. Mullenargued that it is not only the qualifications obtained by a teacher that could contribute to a teacher subject's competence but actual achievement in terms of knowledge on the subject matter. As observed by Ajeyalemi, (2005), an effective teacher of any subject must demonstrate: Competence of the subject matter as well as the philosophy and goals of teaching that subject at that level; Competence of general and subject-specific teaching strategies; Knowledge of the learner, learning theories, principles, methods and good personality as a leader, as well as positive attitudes to the students and the subject matter.

2.2.6 Concept of School Type

The origin of private school was in the 19th century in Nigeriaduring the era of missionary activities (Odeleye, Oyelami and Odeleye, 2012) and in the 1970s these schools were taken over by the government for uniform standard and fair distribution of educational facilities (Akomolafe, 2012). In the 1990s series of private schools cropped up to provide better teaching/learning conditions than what obtained in the public secondary schools drawing students from high-income families (Etuk, 2005). The advent of mass establishment of private schools was due to deplorable conditions in public schools as many parents seem to prefer private schools because they thought they were more efficient and effective on their job (Adiotomre and Ekwevugbe, 2005).

Research findings (Akomolafe, 2012; Adiotomre and Ekwevugbe, 2005 and Etuk, 2005) showed that, private schools were good enough for children's education, have lower incidences of negative school behaviour than public schools, were instructionally more effective in the use of instructional materials, use of variety of teaching methods and student evaluation techniques, and personnel were more dedicated on their job. Private schools are independent schools, which are established by non- governmental agencies, as profit making ventures while public schools were government established schools opened to all members of the society. According to Okafor (2006), private education is the type undertaken by any organization or agency besides the state. Etuk (2005) viewed private schools as schools that provide challenging education and intends to maintain a more conducive environment for learning.

Public schools are institutions empowered by the government to make education available and demonstrate commitment to equality by providing equal educational opportunity to all its citizenry (Eze, 2010). These schools inculcate the civic values of tolerance, equality, liberty, democracy, equal opportunities and shared experiences. Public schools are basically related to education provided through the media of government in which government has centralized control, standardized attendance and admissions, set curriculum and programmes, mandatory teacher certification, and the goal of standardized outcomes of school in the interest of equity (Okafor 2006). They are schools owned, managed, controlled, financed and supervised and inspected by the state government through the state ministry of education (Okafor 2006; Eze, 2010).

Eze (2010) and Schacter and Thum (2004), reviewed studies of public and private secondary school system in some developed countries and found private schools appear to be more effective, with achievement being somewhat higher than in public schools. Akomolafe, (2012) and Etuk (2005) stated that private schools are superior in promoting students' achievement and their high performance is due to hard work. Etuk further explained that private schools tend to achieve high result with less expenditure on teachers, which makes up the bulk of recurrent school expenditure than public schools.

Alt and Peter (2002) revealed that private secondary school administrators are more effective in maintaining discipline than their counterparts in public schools. Ubeku (1994) was of the view that poor attitude to work was found to be common in the public sector than in the private schools, stressing that this was due to the master-servant relationship coupled with rigid control and direction which typifies the activities of the leaders. However, Abiodun-Oyebanji (2004), and Akomolafe (2012) submitted in their studies that there was no significant difference in teachers' job performance in both private and public secondary schools in Ekiti state. Adegun (2005) also revealed that there was no difference in the administrative effectiveness of head teachers in public and private primary schools. Furthermore, Bassey, Udo and Ekpoh, (2005) revealed that there were similarities in the supervision of teachers and the assessment of the students' academic activity between the public and private schools.

2.3. Empirical Review of Literature

2.3.1 Assessment and Students' Learning Outcomes

Mehmood, Hussasin, Khalid and Azam (2012) conducted a study to investigate the impact of formative assessment on academic achievement of secondary school students. The study was a pretest/posttest control group design, and consisted of 60 10th grade students. The students were grouped into control and experimental groups. Statistical analysis of post-test indicated that there was significantt difference in the mean scores of both groups i.e.26.86 for experimental group and 14.83 for control group. The variance was 3.22 and 2.27 and the standard deviation was 10.42 and 5.15 for experimental and control groups respectively. The result of the post-test showed that formative assessment had a positive effect on the achievement of students.

2.3.2 Portfolio Assessment and Students' Learning Outcomes

In investigating the relationship that exists between authentic and portfolio assessments based on attitude of students towards the two modes of assessments, Adeyemi (2008) used a survey design and administered a social studies achievement test to 480 students in Osun state. Analysing the result with t-test and f-test, it was found that, students' significant difference (tc = 2.85 >tt=1.96) existed in achievement in authentic assessment and achievement in portfolio assessment.

Ugodulunwa and Wakjissa (2015) investigated the use of portfolio assessment technique in teaching map sketching in Geography in Jos South, Jos, Nigeria. The study adopted a pretest-posttest quasi-experimental design while using one school as experimental (49 students) and the other as control (52 students). The two groups were given a pre-test. Thereafter, the experimental group was taught map sketching and location using portfolio assessment technique, while discussion method was employed to teach the control group. The findings of the study revealed that portfolio assessment helped in improving students' performance in map sketching and location, where the experimental group recorded higher mean gain scores of 33.32 as against1.65 gain scores recorded for the control group. The study recommended that teachers and schools should employ portfolio assessment technique in teaching to help improve performance in secondary school geography.

Birgin and Baki (2007) in a study on the use of portfolio to assess students' performance, compared the traditional method of assessment to that of portfolio. The study found there was superiority of portfolio assessment to traditional assessment. It was recommended that portfolio should be applied in education to teach subjects such as Science and Technology, Mathematics, Social Science to observe the students' progress during the learning process and to provide the required assistance depending on their performances. It was also recommended that, to cope with the possible limitations or disadvantages of portfolios, teachers who tend to use portfolios should be educated before use, as well as be assisted and supported in the portfolio application process by experts.

Song and August (2002) in their study on the effectiveness of portfolio assessment to predict performance as any standardised assessment, found that portfolio assessment is as effective as any standardised test in predicting students' achievement in an English language course. Song and August found that non-native English students are likely to pass their English language courses when they are evaluated through the portfolio assessment method than when they are required to pass their standardised final written test. Song and August believed that the use of the portfolio assessment seems to be a more appropriate assessment alternative for the students.

2.3.3. Peer Assessment and Students' Learning Outcomes

Oyelekan (2014) in the study of effects of self and peer assessment on students' learning outcomes in senior secondary school physics in Osun state, Nigeria, adopted a quasi-experimental design approach. The target groups for the study were Senior Secondary School students in Osun state. Two local governments, six schools and 348 physics students were selected and used. Results of the data when analysed showed that the assessment method used as treatments (self and peer assessment) improved students' achievement in physics. Going further to show which had more impact on students' achievement, it was discovered that self-assessment had more impact on students' achievement than peer assessment.

Zhang (2012) in the study of Peer Assessment of Soft Skills and Hard Skills, used a mixed method approach. In the first method which was quasi-experimental, 24 students which comprised of 5 women, 19 men, ranging in age from 20 to 31, majoring

in IT or pre-IT courses were used. Students were randomly assigned to 5 groups: PHP, Ajax, XML, HTML5, or RSS. The first 3.5 weeks of the semester were a facilitating phase during which the instructor taught JSP, which has characteristics similar to those of PHP. This phase lowered the learning curve for PHP and other topics and established a teaching example for students to follow. During the next 2.5 weeks, each group learned one of the 5 topics: PHP, Ajax, XML, HTML5, or RSS. For each, the instructor provided a set of written program codes and a brief assignment instruction. Each group was responsible for figuring out the codes, learning and preparing to teach the topic to the rest of the class. After the 2.5 weeks of preparation, each group had 1.5 weeks to present a topic, run the labs, tutor students, and grade assignments and tests. The assessment scale was presented to the class at the beginning of the semester, so students would have a clear understanding of the evaluation criteria and who would evaluate them. This preparation motivated students to improve their skills when interacting with peers.

Within the groups, each member evaluated peers including him or herself twice during the semester. The first round was administered at the end of group learning; the second, at the end of group teaching. It was discovered that peer evaluation is more effective than instructor evaluation. This study also proved that it is valuable for educators to promote soft-skill training in an active learning environment and to use peer evaluations to achieve success in IT education. Double, McGrane and Hopfenbeck(2018) who examined the impact of Peer Assessment on Students' Academic Performance: A Meta-analysis of Quasi Experimental Studies, found that the effectiveness of peer assessment was remarkably robust across a wide range of contexts. Their findings provide strong support for peer assessment as a formative practice and suggest several implications for the implementation of peer assessment into classroom practice. It also advocates for appropriate use of assessment aiming to improve learning and enhance the instruction as involvement of students in the process of assessment augments learning.

2.3.4. Teachers' Competence and Students' Learning Outcomes.

Ugbe and Agim (2009) in the study of Influence of Teachers' Competence On Students Academic Performance in Senior Secondary School Chemistry in Yala Local Government Area of Cross River State, adopted survey design approach. A random

sampling technique was used to select 6 secondary schools out of 12 secondary schools in Yala Local Government Area of Cross River State. 200 students, 20 teachers and 6 principals were used in the study. Results of the data analyzed, using the Pearson Product Moment Correlation (PPMC) and t-test revealed that there was significant relationship between teachers' competence and students' academic performance in Chemistry. Chemistry students taught by qualified teachers performed significantly better than those taught by unqualified teachers. The study proved that students performed significantly better with teachers that scored high in the teacher competence questionnaire than those with teachers that scored low.

Rabo (2018) in the study of Relationship between Teacher Competence, School Climate and Academic Performance of Public Senior Secondary School Students in Sokoto State, Nigeria used a mixed method approach. A total number of twelve public senior secondary schools, with three thousand four hundred and twenty-eight (3,428) as the population of SS II students, were purposively selected within the six educational zones to represent the total population. The judgmental sampling technique was used to select the schools.The qualitative data collected were analyzed through thematic analysis by coding and transcription, while the quantitative data were analyzed using Pearson Product Moment Correlation Co-efficient. The findings from the study proved that, teacher competence has relationship with student's academic performance, showing that, teacher's composure, good knowledge of the subject matter and student/teacher relationship enhances academic achievement of students.

Nbina (2012) in the study to find the relationship between Teacher's Competence and Students' Academic Performance in Senior Secondary Schools Chemistryin Tai Local Government Area of Rivers State, used survey design. Random sampling technique was used to select 6 secondary schools out of the 10 secondary schools in Tai Local Government Area of Rivers State making a total of 200 students, 20 teachers and 6 principals used in the study. Data were analyzed using the Pearson product Moment Correlation (PPMC) and t-test. The study revealed that there was significant relationship between teachers' competence and students' academic performance in chemistry, as students taught by teacher who scored higher in the teacher competence scale had better performance than those with teacher who scored lower in the scale.

2.3.5. School type and students learning outcome

Okonkwo (2002) found that children who attended private primary schools generally came into secondary schools more ready for junior secondary school mathematics than did their public school counterparts. Also, Okonkwo in his study concluded that some 10 percent (10%) of variance in mathematics scores was uniquely accounted for by the type of school, after the location effect had been statistically controlled for. The notion that pupils in private primary schools are better academic achievers than their counterparts in public primary schools is dependent on the assumption that private schools are adequately equipped with human and material resources, and that those resources are channelled towards purposeful educational objectives.

However, in the study comparing students' academic performance in business studies in public and private Junior Secondary School Certificate Examinations (JSSCE) in Ovia South West Local Government Council Area of Edo State, Nigeria, conducted by Igbinedion and Epumepu (2011), it was revealed that there was significant difference in the academic performance in business studies between the public and private schools from 2008 to 2011. Results further showed that the percentage performance trend of public schools were higher than those of the private schools for both males and females.

Research findings on the influences of facilities in private and public secondary schools on students' academic performance are controversial. Keeves (1978) and Alimi, Ehinola and Alabi (2012) found that the type of school, classified as public or private did not make any difference on students' academic performance, while Ajayi (2006), found out that school type makes a difference in student academic performance. In addition, Philias and Wanjobi (2011) and Alimi, Ehinola and Alabi (2012) reiterated that the type of schools, (single sex or mixed, private or public) has effect on the academic performance of students.

2.4 Conceptual Framework of the Study

The framework for this study hinged on the Constructivism Theory and Theory of Multiple Intelligence. Constructivism theory was used with the understanding that there is a relationship between experiences of individuals and creation of new facts. According to the theory, adjustment is the method of altering a person's knowledge of

the outside world to fit new experiences and by so doing adjust by learning from the experience of failure or others' failure. Constructivist learning is a rationalisation ensuing from proofs to specific conclusion, that is, students participate in activities through which they develop skills and acquire ideas. The rationale for using constructivism theory in this study is to present a foundation for investigating the effect of alternative assessment (portfolio and peer assessments) on academic achievement of students based on active participation of students in the teaching and learning process, peer review of assignments, vigorous knowledge construction and the relating class activities to home environment. This produces motivated, problem-solving, critical thinking and self-determine learners. Constructivism believes that creating new knowledge must be from a previous knowledge and students must make sense of this process through the guidance of the teacher. The activities are student-centred where students are encouraged to ask questions, carry out experiments, make comparisons, and come to conclusions (Sharma, 2006).

Similarly, the Theory of Multiple Intelligence was used because these intelligences (or competencies) are associated to a person's distinctive talent/skill and methods they might choose to exhibit intellectual abilities. This implies that, people who have an affinity toward one of the intelligences do so in concert with the other intelligences as they develop skills and solve problems (www.businessballs.com). This theory can be used to develop curriculum, plan instruction, select subject activities, plan assessment strategies and develop instructions to improve students' strength and identify areas of weakness. The theory endeavours to build the idea of intelligence on a comprehensive scientific footing to offer a set of tools to educators that will allow more individuals to master fundamental materials in an effective way, and to help each individual reach his or her human potential. It encourages students' engagement and learning. In order words, the use of portfolio and peer assessment could be used to improve learning and develop soft skills of students.

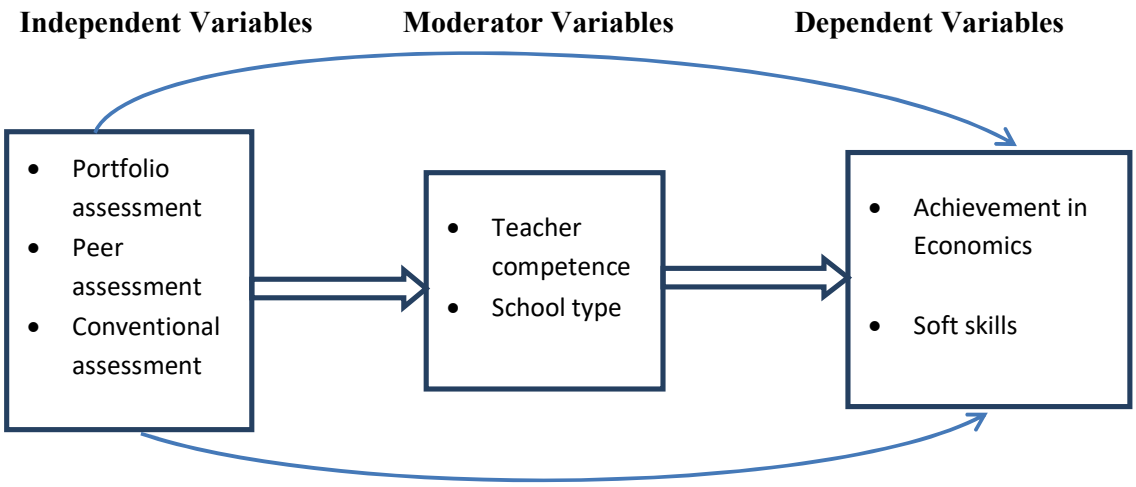

Figure 2.1: conceptual framework

The framework for this study contained all the six important variables. Two independent variables (portfolio and peer assessment methods) were used as alternative methods of assessment in a quasi-experimental design to investigate if there would be an improvement in Economics learning outcomes of students. Teacher competence and School type are the two moderator variables used to determine whether they would influence students' learning outcomes in Economics. The two dependent variables in this are students' achievement in Economics (cognitive domain) and soft skills (affective domain). They are the variables in which the effects of the treatment (independent variables) were to be measured as illustrated in Figure 2.1.

2.5 Appraisal of Literature Reviewed and Gap Filled

The literature reviewed in this study covered all the variables of the study. It presents the previous works done on effects of portfolio and peer-assessment on students' learning outcomes in Economics as a school subject.

Previous studies reviewed in relation to effects of assessment revealed that researchers viewed assessment as a way to make decision about students individually or as a group. Others posited that assessment should be a continuous process of collecting and evaluating students' work to determine how well performance matches learning. Again, some researchers asserted that assessment of learners' progress is an integral part of the curriculum and instruction as it helps to plan instruction for individual and

group, to communicate with families, to identify children who may need specialised services or intervention and to inform program development. Previous findings affirmed that teachers should strive to develop a range of assessment strategies that match all aspects of their instructional plans. Instead of trying to differentiate between formative and summative assessments, it may be more beneficial to begin planning assessment strategies to match instructional goals and objectives at the beginning of the semester and implement them throughout the entire instructional experience.

Furthermore, during the review of literature regarding the effect of portfolio assessment on students' learning outcomes in Economics, it was revealed that portfolio assessment was significant in improving students' academic performance. When comparing portfolio assessment with conventional assessment, portfolio assessment was found to be superior to conventional assessment. One of the authors recommended that before a teacher can use portfolio assessment, he/she should be educated, assisted and trained in portfolio application by experts. Some scholars are of the opinion that, portfolios can be used to show growth over time, to provide assessment information that guides instructional decision-making, show progress towards curriculum standard, show the journey of learning including process and products over time, as well as used to gather quantitative information for the purposes of assessment outside the classroom.

Literature also revealed that numerous studies had been conducted to show learning to specific audience in different areas using portfolio assessment. It was used in early childhood with students who have special needs and in elementary classrooms, writing and mathematics. Portfolios assessments in secondary schools was used initially in performance-based disciplines such as fine arts, writing and have now expanded to be used across many disciplines such as science education, chemistry, physics, English language classes, music education and in fact beyond academics. There is a growing body of research related to electronic portfolios in a bid to improve achievement in Economics in secondary schools and to develop soft skills in students.

In the process of reviewing literature into effect of peer assessment on students' learning outcomes, it was discovered that peer assessment was significant in improving students' academic performance and that peer-assessment was more effective than conventional assessment. Investigating into effect of peer-assessment in promoting

students' soft skills, it was found that peer-assessment was valuable for educators to promote soft-skill training in an active learning environment. It was also discovered that students internalised better and faster when they are involved in peer-assessment and are allowed to take responsibilities for their learning.

On developing or improving soft skills of students, literature revealed that the most commonly sought-after soft skills that are often emphasised by employers are communication, problem-solving and teamwork skills. Literature showed that soft skills have to be developed in holistic manner. On the significance of teamwork on students' learning outcomes, literature revealed that teamwork enhances students' academic achievement. Similarly, on the significance of problem-solving on students' learning outcomes, literature revealed that problem-solving skill is an important life skill involving analysing, interpreting, reasoning, predicting, evaluating and reflecting. While some authors found that problem-solving skill had significant effect on students' academic performance, other authors revealed that there was a positive correlation between communication ability and students' academic achievement.

In reviewing literature on the importance of soft skills to employers, it was discovered that attributes such as leadership, communication, problem-solving, time management and teamwork, also known as soft skills, have become critical for entrance into today's job market and that employers are seeking employees with ability to integrate their technical knowledge with soft skills. On soft skills as requirements for graduates, literature revealed that most employers raise a concern that they are not able to find graduates with the required skills to function effectively in the workplace.

Furthermore, literature revealed that, it is the fundamental duty of teachers to help students to learn, understand and achieve beyond their current educational status and to effectively discharge the required responsibility. Teaching is a continuous human activity by which the teacher connects the learners and the subject matter drawn from school curriculum. In the light of the above, this study investigated effects of portfolio and peer assessments on students' learning outcomes in Economics.

CHAPTER THREE
METHODOLOGY

This chapter describes the methodology used in this study, which includes research design, target population, sampling technique and sample, instrumentation, methods of data collection and methods of data analysis.

3.1. Research Design

The study adopted a non-randomised pretest and posttest control group, quasi experimental design.

The research design is illustrated below:

Experimental Group 1		$O_1\ X_1\ O_2$
Experimental Group 2		$O_1\ X_2\ O_2$
Control group	$O_1 \sim XO_2$	

3.2 Factorial Design

The design employed a 3 x 2 x 2 factorial matrix, which allowed for the determination of effect of each independent variables and an opportunity to determine the combined influence of moderator variables on the dependent variables. The factorial design for the study is presented on Table 3.1

Table 3.1: Showing 3 X 2 X 2 Factorial Matrix

Teacher competence	**Treatment**					
	Portfolio Assessment		**Peer Assessment**		**Conventional Assessment**	
	School type					
	Public	**Private**	**Public**	**Private**	**Public**	**Private**
High						
Low						

3.3 Variables of the Study

Independent variables: The only treatment in this study was alternative assessment method which operated at two levels, while teaching was held constant for the three groups. They included:

i. Portfolio Assessment strategy
ii. Peer Assessment strategy
iii. Conventional assessment strategy(control group)

Moderator variables: The variables that were controlled for in the course of the study are:

i. Teacher competence (high and low)
ii. School type (public and private)

Dependent variables: The dependent variables are:

i. Students' Achievement in Economics
ii. Students' Soft skills (problem solving, teamwork and communication)

3.4 Population

Population for this included all senior secondary two students in Oke-Ogun while target population for this study comprised all senior secondary school two (2) students offering Economics in all co- educational public and private senior secondary schools inOke-Ogun area of Oyo State.

3.5 Sampling Techniques and Sample

Multistage sampling procedure was employed to select the participants for the study as follows: Oke-Ogun was stratified along the already existing two groups into Upper Oke-Ogun (consisting of Saki-West, Saki-East, Atisbo, Irepo, Olorunsogo and Oorelope) and Lower Oke-Ogun (consisting of Kajola, Iwajowa, Itesiwaju and Iseyin). From each of the two grouping simple random sampling technique was used to select one LGA (Saki-West and Itesiwaju. At the next stage, purposive sampling technique was used to select a total of six co-educational schools (three public and three private schools) offering Economics from each selected LG, making a total of twelve schools.

Finally, an intact SS2 class offering Economics was purposively selected from each of the participating schools.

Table 3.2: Sampling Distribution

Classification	**Number of LGA in Oke-Ogun**	**No of LGA selected**	**No of Selected public Schools**	**No of Students**	**No of selected private schools**	**No of students**
Upper Oke-Ogun	6	1	3	3 Intact classes	3	3 Intact classes
Lower Oke-Ogun	4	1	3	3 Intact classes	3	3 Intact classes
Total	10	2	6		6	

Table 3.3 Sample for treatment

Classification	Schools	Number of students
Upper Oke-Ogun	School 1 (public)	43
	School 2 (public)	44
	School 3 (public)	28
	School 4 (private)	30
	School 5 (private)	23
	School 6 (private)	29
Lower Oke-Ogun	School 1 (public)	37
	School 2 (public)	41
	School 3 (public)	43
	School 4 (private)	30
	School 5 (private)	31
	School 6 (private)	28
Total	12	406

3.6 Instrumentation

The following instruments were constructed, validated andused to collect data for the study. These are:

- **Data Collection Instruments**

i. Economics Achievement Objective Test (EAO) - Appendix I
ii. Economics Achievement Essay Test (EAET) - Appendix II
iii. Students' Soft Skills Scale (SSSS) - Appendix III
iv. Students' Soft Skill Test (SSST) - Appendix IV
v. Teachers' Competence Instrument(TCI) - Appendix V

- **Stimulus Instruments**

i. Portfolio Assessment Package (PFAP) - Appendix VI
ii. Peer Assessment Package (PAP) - Appendix VII
iii Conventional Assessment Package (CAP) - Appendix VIII

3.7 Development and Validation of the Instruments

The instruments listed above were developed and validated as follows:

3.7.1 Economics Achievement Objective Test (EAOT)

Economics Achievement Objective Test (EAOT) was constructed by the researcher to assess the achievement of students in Economics as a subject during and after treatments. It contained two sections: A and B. Section A was used to elicit demographic information such as name of school, school type and class, Section B was used to elicit responses from pool of items. It contained an initial pool of two-hundred (200) questions developed from eight themes of Economics for senior secondary school 2 (SS2),

Theme 1: Principles of Economics.
Theme 2: Economics systems.
Theme 3: Population, labour market and human capital development.
Theme 4: Consumer behaviour, price determination and market structures.
Theme 5: Nigerian economy and major natural resources.
Theme 6: National income and public finance.
Theme 7: Financial institutions and regulatory agencies and
Theme 8; Money and inflation/ deflation.

The initial two hundred (200) pool of items was constructed on the selected contents based on the table of specification drawn to reflect the six levels of behavioral objectives of cognitive domain by revised Bloom's taxonomy by Anderson and Krathwohl (2001). These were given to three Economics teachers from Ibadan-North LGA, Ibadan North-West LGA and Ido LGA to ascertain coverage, relevance and appropriateness, which reduced the items to 150. The 150 items were then administered on SS2 Economics students in schools that did not take part in the study. Item analysis was done to determine differential item functioning which was used to identify the best 50 items with indices between 0.40 and 0.60, discriminating index D≥ 0.3. The reliability of the instrument was established using Kuder-Richardson 20 (KR20 of r= 0.92). Thereafter, concurrent validity was done with that of the teacher made test and it was found to be r= 0.75. (**See Appendix 1V).** Table 3.4 was used to guide the selection of items for content validity.

Table 3.4 Table of Specifications

Cognitive Contents	Remember 23.44%	Understand 65.63%	Apply 1.56%	Analyze 3.13%	Evaluate 0%	Create 6.25%	Total
Principles of Economics 25%	3 (items 1,11,13)	8 (items 12,16, 18,21,25, 28, 31 ,47)	-	1 (item 15)	-	1 (items 29)	13
Economics Systems 3.1%	-	1 (items 48)	-	-	-	-	1
Population, Labour Market and Human Capital Developmen t 3. 5%	1 (items 17)	1 (items 35)	-	-	-	-	2
Consumer Behaviour, Price Determinati on And Market Structures 20.3%	2 (items 23,24,)	6 (items2,8,19,32, 49,39)	-	1 (item37)	-	1 (items4)	10
Nigerian Economy And Major Natural Resources.1 0.9%	1 (items7)	4 (items3,5,26,34)	-	-	-	1 (item6)	6
National Income and Public Finance. 15.6%	2 (items9,14)	5 (items10,27,30, 36,41)	1 (item 20)	-	-	-	8
Financial Institutions And Regulatory Agencies 9.4%	1 (items44)	3 (items41,42,43)	-	-	-	-	4
Money and Inflation/ Deflation 10.3%	2 (items33,46)	4 (items38,40,45, 50)	-	-	-	-	6
Total	12	32	1	2	-	3	50

EAOT was dichotomously scored. 1 was assigned to a correct response while 0 was assigned to a wrong response.

3.7.2 Economics Achievement Essay Test (EAET)

Economics Achievement Essay Test (EAET) was constructed by the researcher to assess the students' achievement in Economics as a school subject. It contained two sections: A and B. Section A elicited demographic information such as school name, school type and class, Section B elicited responses from the pool of items. An initial pool of 15 items was developed from eight contents or topics in Economics for senior secondary school two (SS2). These included: Principles of Economics, Economics systems, Population, labour market and human capital development, Consumer behaviour, price determination and market structures, Nigerian economy and major natural resources, National income and public finance, Financial institutions and regulatory agencies and, Money and inflation/ deflation. The initial fifteen (15) pool of items was constructed on the selected contents based on the table of specification drawn to reflect behavioral objectives of cognitive domain by Anderson and Krathwohl (2001). These were given to five Economics teachers from Ibadan-North LGA, Ibadan North-West LGA and Ido LGA to ascertain coverage, relevance and appropriateness. Their input reduced the items to 5. Fifteen (15) panelists (comprising of experts in measurement and evaluation from Institute of Education, University of Ibadan and Economics teachers with 5-10 years teaching experience from senior secondary schools in Ibadan-North and Ido LGAs)were used to judge the content of the items raised. Lawshe (1975) formula was then applied to calculate the content validity ratio of each of the five items: CVR $= \frac{Ne - N/2}{N/2}$

Where: CVR = Content Validity Ratio

N_e = No of panelists rating the item good

N = Total number of panelists

The CVR for each of the five items are: 0.65, 0.7, 0.75, 0.82 and 0.78 respectively, while the collective CVR for the whole instrument is 0.74. Thereafter, concurrent validity was done with that of the teacher made test and it was found to be r= 0.82. These items were used in the study (**See Appendix V**)

Table 3.5 Table of Specification

Cognitive Contents	Knowledge 0%	Comprehension 0%	Thinking 100%
Principles Of Economics 25%	-	-	6 (items 1,2,6)
Economics Systems 3.1%	-	-	1(item 5)
Population, Labour Market and Human Capital Development 3. 5%	-	-	1 (item 3)
Consumer Behaviour, Price Determination And Market Structures 20.3%	-	-	1 (items 4,14)
Nigerian Economy And Major Natural Resources.10.9%	-	-	2 (items 7,13)
National Income And Public Finance.15.6%	-	-	3 (items 9,12,15)
Financial Institutions And Regulatory Agencies 9.4%	-	-	2 (items 8,11)
Money And Inflation/ Deflation 10.3%	-	-	1 (item 10)
Total	-	-	15

3.7.3. Students' Soft Skills Scale (SSSS)

Students' soft skills scale was constructed by the researcher to assess the soft skills of students in real life situations. It contained two sections: A and B. Section A sought demographic information such as name of school, school type and class, while Section B elicited information on soft skills of students (problem solving, teamwork and communication) measured in this study. This scale was used by students to rate themselves on their soft skills (before and after treatment); it involved the use of a four points scale: Excellent =4, Good =3, Fair =2, Poor =1. This instrument was trial tested on students in senior secondary school 2 in both co- educational public and private schools in Ibadan-North, Ibadan North-West and Ido LGAs which were not part of the study sample. Cronbach Alpha was used to determine the reliability and it was found to be 0.88. **(See appendix VI).**

3.7.4. Students' Soft Skill Test in Economics (SSST)

Students' Soft Skills Test was constructed by the researcher to measure the soft skills of students in Economics as a school subject and in real life situations. It contained two sections: A and B. Section A sought demographic information such as name of school, school type and class, while Section B elicited information on soft skills of students. Section B measured the soft skills of students in Economics as a subject. The students answered this instrument in a group with marks given to the three components of soft skills [communication: oral (2) and written presentation (2), problem-solving (3) and teamwork (3)]. This instrument was trial tested on students in senior secondary school 2 in both co- educational public and private schools in Ibadan-North, Ibadan North-West and Ido LGAs which were not part of the study sample. Face validity of the instrument was determined by the researcher's supervisor and Economics teachers. Fifteen (15) panelists (comprising of experts in measurement and evaluation from institute of education, university of Ibadan and Economics teachers with 5-10 years teaching experience from senior secondary schools in Ibadan-North and Ido LGAs) were used to judge the contents of the items raised, while The Lawshe (1975) formula was then employed to calculate the content validity ratio of each of the five items:

$$CVR = \frac{Ne - N/2}{N/2}$$

Where: CVR = Content Validity Ratio

N_e = No of panelists rating the item good

N = Total number of panelists

The CVR for each the five items are: 0.73, 0.87, 0.6, 0.73 and 0.6 respectively, while the aggregate CVR for the whole instrument is 0.69. Thereafter, concurrent validity was done with that of the teacher-made test and it was found to be r= 0.69. **(See appendix VII)**

3.7.5 Teacher's Competence Observation Sheet (TCOS)

The teacher's competence instrument was constructed by the researcher to observe the teacher while teaching Economics. Teacher competence was determined by the classroom interaction (dynamics). The aspects observed included: Lesson preparation, Knowledge of content, Use of instructional materials, Classroom management, and Questioning. The instrument was divided into two sections, A and B. Section A, focused on the demographic information which included the name of the school, school type, teacher's qualification, class observed, etc. Section B consisted of 50 items designed to observe teacher's classroom activities with a four scale point: Mostly pre-dominant (4) Pre-dominant (3) Hardly Pre-dominant (2) Not predominant (1). It was further validated by the researcher on a similar sample of twelve (12) teachers that were not included in the study; the reliability of this instrument were established by Scott's pi reliability method and the resulting co-efficient was 0.81.

The inter-rater reliability for each sub-section of section B was obtained as follows, Lesson Preparation = 0.82, Knowledge of Content = 0.75, Use of Instructional Aid = 0.66, classroom Management = 0.78 and Questioning = 0.79. **(See Appendix VIII).**

3.8 Assessment Packages

The researcher prepared assessment packages for the Economics teachers. These guided the way in which the topic content was presented to students for each treatment group. It consists of procedural steps, each of which involves specific activities synonymous with the steps involved in a typical lesson plan.

3.8.1 Experimental group 1

Portfolio Assessment Instructional Package (PFAIP)

This instructional guide was prepared by the researcher to illustrate the various steps the teacher and students followed in portfolio assessment. It contained the activities the teacher and students performed to facilitate teaching-learning process. (**See Appendix IX**)

This group was taught with the prepared teaching guide. This group was characterised by the following:

Teacher Out of Class Activities:

- Identified the purpose of the assessment
- Clear and appropriate scoring criteria was established
- Students' assignments were marked by teacher
- Students' assignments were kept in individual folders.

Students' Activities:

- Students were given assignment
- Students engaged in self-reflection and evaluation of their assignment
- Students' work samples were then kept in the folder
- Assignments were marked by individual student

Teacher-Student Conference:

- Selected portfolio content
- Established clear guidelines for what will be included in the portfolio
- Reviewed work samples
- Evaluated students' work samples in relation to learning target
- Corrected students' weaknesses and pointed out areas that needed improvement

Portfolio Assessment

- This is an assessment based teaching approach. Learning is acquired through relating concepts to students' real life situations.

- This is an assessment approach where facts, specific information, characteristics, terminologies, concepts, principles and techniques used were linked to the real life situations of the students.
- Students were asked to come up with their own examples and relate them to situations at home or environment.
- Teaching manual which contained class exercise and topics on selected content to teach were made available.
- Each class contact ended with class practice during which the teacher proffered solution on how the students were expected to execute the assignment.
- The take home assignments were submitted and kept in a folder to show the overall improvement of the students.

Steps involved in portfolio assessment:

Step 1: The teacher tested for entry behaviour of students by asking questions orally on the previous topic taught in Economics.

Step 2: Teaching took place using the lesson note as guide.

Step 3: The teacher introduced a new topic.

Step 4: The teacher used real life situations or circumstances around to explain the topic taught.

Step 5: The teacher summarised the topic by going through all that was taught

Step 6: Teacher evaluated the students by asking questions orally to ascertain if the students understood the topic (Re-explained were necessary).

Step 7: Teacher asked questions on the important points in the topic.

Step 8: Teacher divided the students into groups of $5 \leq n \leq 10$ and rotated group members at the start of the 1st period.

Step 9: The teacher gave homework to the students asking them to use situations at home or home environment related to the task.

Step 10: The teacher explained how they must relate their homework to real life situations around them

Step 11: Each group brought a student to present to the class

Step 12: Teachers guided the students to mark the homework

Step 13: Homework was marked first by individual student

Step 14: The teacher re-marked the homework and provided feedback for corrective measure until the child attained mastery of the topic

Step 15: One-on-one teaching was done on areas of deficiencies to enable student gain mastery

Step 16: The teacher kept student's multiple work samples in each of their folders.

3.8.2 Experimental group 2

Peer Assessment Instructional Package (PAIP)

This instructional guide was prepared by the researcher to display the various steps the teacher and students followed involving peer assessment. It contained the activities the teacher and students performed that facilitated teaching-learning process. (**See Appendix X**)

This group was taught with the prepared teaching guide. This group was characterised by the following:

Teacher out of class Activities:

- Identified the purpose of the assessment
- Established clear guidelines of how to execute the assignment
- Clear and appropriate marking criteria were established
- Collection of individual student's assignment
- Teacher marked the peer reviewed assignment

Students' Activities:

- Students were given tasks to perform
- Turned-in individual assignments
- Students reviewed peer assignment: critiqued, marked and gave feedback
- Peer pointed out their fellow students' weakness and areas that needed improvement

Steps involved in peer assessment:

Step 1: The teacher tested for entry behaviour of students by asking questions orally on the previous topic taught in Economics.

Step 2: Teaching took place using the lesson note as guide.

Step 3: The teacher introduced a new topic.

Step 4: The teacher used real life situations or circumstances around to explain the topic he/she taught.

Step 5: The teacher summarised the topic by going through all that was taught

Step 6: Teacher evaluated the students by asking questions orally to ascertain if the students understood the topic (Re-explained were necessary).

Step 7: Teacher asked questions on the important points in the topic.

Step 8: Teacher divided the students into groups of $5 \leq n \leq 10$ and rotated group members at the start of the 1st period.

Step 9: The teacher gave homework to the students asking them to use situations at home or home environment related to the task.

Step 10: The teacher explained how they must relate their homework to real life situations around them.

Step 11: Students' assignments were marked by peer (peer review). The scripts were given back to students at random and they marked taking notes of their peer's mistakes and why they made such mistakes. Then weak students were identified.

Step 12: The student reasoned together on the task given.

Step 13: Corrective measures were given to the weak students in the group by the peer that had the highest mark on the task

Step 14: Weak students repeated the task

Step 15: Weak students' assignment was reviewed again by peers

Step 16: Each group brought a student to present to the class

Step 17: Assignments were then re-marked by teacher

3.8.3 Control group

Conventional Assessment Instructional Package (CAIP)

Conventional assessment is the prevailing and traditional method of assessment commonly used by teachers. The teacher is the sole assessor (**See Appendix XI**).

Steps involved in Conventional Assessment

Step 1: The teacher tested for entry behaviour of students by asking questions orally on the previous topic taught in Economics.

Step 2: Teaching took place using the lesson note as guide.

Step 3: The teacher introduced a new topic.

Step 4: The teacher used real life situations or circumstances around to explain the topic he/she taught.

Step 5: The teacher summarised the topic by going through all that was taught.

Step 6: Teacher evaluated the students by asking questions orally to ascertain if the students understood the topic (Re-explained were necessary).

Step 7: Teacher asked questions on the important points in the topic.

Step 8: Teacher divided the students into groups of $5 \leq n \leq 10$ and rotated group members at the start of the 1st period.

Step 9: The teacher gave homework to the students by asking them to use situations at home or home environment related to the task.

Step 10: The teacher explained how they must relate their homework to real life situations around them

Step 11: The teacher collected the assignment.

Step 12: The assignments were marked by the teacher.

3.9 Procedure for Data Collection.

3.9.1 Letter of Introduction

The process of data collection commenced with obtaining an official letter of introduction from the Head of International Center for Educational Evaluation (ICEE), Institute of Education, University of Ibadan. This enabled the researcher to obtain permission from the principals of the sampled schools to train the teachers on the use of the assessment packages and to conduct the study.

3.9.2 Treatment Package (TP)

This refers to the training manual and the instructional guides for the research assistants (Economics teachers) who participated in the study. This was packaged by the researcher in line with the suggestion and contribution of the supervisor and experienced Economics teachers as well as experts in the field of research. **(See the Appendixes XI-XI).**

3.10 Research procedure

3.10.1 The main study

Experimentation

The experiment was divided into three main stages: pre- treatment, treatment, and post-treatment stages. The researcher met with the principals and Economics teachers (research assistants) of the selected schools to discuss the reasons for the study; dimension of the study as well as the use of their schools for the period of the study. Fourteen research assistants were trained and used for the study. Twelve research assistants were Economics teachers while two research assistants conducted the observation sessions. Both the researcher and the teachers agreed on time and value for training for those who fall into experimental groups (Portfolio Assessment, Peer Assessment). The researcher then conducted the training of the research assistants (Economics Teachers) based on the experimental group which they belonged. This lasted for two (2) weeks.

3.10.2 Pre-treatment Period (Week 1-2)

In the first week of the main study, a pretest, using the developed and validated instruments EAOT, EAET, SSSS and SSST, were administered to both the experimental and control group participants. The researcher and assistants carried out the administration. The participants' responses to the instruments were collected immediately after the assessments were completed.

3.10.3 Treatment Period (Week 3-10)

Two Assessment strategies were used for the experimental groups, which were portfolio assessment and peer assessment, while control group was not given any treatment. The experiment lasted eight (8) weeks, while each treatment session lasted 40 minutes.

3.10.4 Post-treatment Period (Week 11)

At the end of the 11^{th} week, the post-test was administered to the two experimental groups and the control groups. The students were individually tested using the EAOT, EAET, SSSS and SSST.

3.11 Methods of Data Analyses

The data generated from the study were classified as pre-test and post-test scores for both experimental and control groups. The data were analysed using Analysis of Covariance (ANCOVA) with the pre-test scores as covariates. In addition, Sidak Post-Hoc was used because it applies an accept/reject criterion on a sorted set of null hypothesis) to show how the groups performed and the differences among the groups if the treatments (at three levels) was significant. This was used to explain the source of significant difference among the groups. All the hypotheses were tested at 0.05 level of significance and independent t-test was also used to answer the research questions. The soft skill scale score and the test score for each student was summed and transformed to t-score before it was used for data analysis.

CHAPTER FOUR
RESULTS AND DISCUSSIONS

Introduction

This section presents the results of the data analysed and the discussion of the findings. The results are presented in the order in which the hypotheses were tested. The first dependent variable (achievement in Economics) first, then the second dependent variable (soft skills in Economics).

Testing the Hypotheses

4.1. Ho_{1a}:There is no significant main effect of treatment (PfA, PeA and CoA) on students' achievement in Economics.

In order to test the significance of the main effect of treatment (PfA, PeA CoA) on the students' achievement in Economics a one-way ANCOVA test was run. Table 4.1 shows the composite table for the one-way ANCOVA tests of Between-Subjects Effects.

Table 4.1: Summary of Analysis of Covariance (ANCOVA) of Student's Achievement in Economics by Treatment (PfA, PeA and CoA), Teacher competence and School Type.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	100449.976[a]	12	8370.831	149.823	.000	.821
Intercept	46282.847	1	46282.847	828.382	.000	.678
Pre-test eco	17910.479	1	17910.479	320.566	.000	.449
School type	.086	1	.086	.002	.969	.000
Treatment	26702.231	2	13351.116	238.962	.000	.549
Teacher competence	604.676	1	604.676	10.823	.001	.027
School type * treatment	1212.753	2	606.377	10.853	.000	.052
School type * teacher competence	34.277	1	34.277	.613	.434	.002
treatment*teacher competence	21.056	2	10.528	.188	.828	.001
School type * treatment * teacher competence	419.804	2	209.902	3.757	.024	.019
Error	21957.455	393	55.871			
Total	1962807.000	406				
Corrected Total	122407.431	405				

a. R Squared = .821 (Adjusted R Squared = .815)

As seen in Table 4.1, there is a significant effect of treatment (PfA, PeA and CoA) students' achievement in Economics. $F_{(2, 393)}=238.96$, $p<0.05_{(0.00)}$,partial $\eta^2=0.55$. The effect size (54.9%) of treatment on the combined dependent variable was moderate. The null hypothesis that there is no significant main effect of treatment on student's achievement in Economics was therefore rejected. This implies that the treatment improved students' achievement in Economics. The adjusted R squared value of .821 shows that the independent variables accounts for 82.1% of the variance observed on students' academic achievement in Economics. Also, the Table shows that the partial eta squared was estimated to be 0.549. This indicated that treatment accounts for 54.9% of the variance observed on the students' academic achievement in Economics. The results of the estimated marginal means and pairwise comparison of students' achievement in Economics are displayed in Table 4.1.1 and Table 4.1.2.

Table 4.1.1: Estimated Marginal Means By Treatment (PfA, PeA and CoA)

Treatment	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Portfolio	77.807[a]	1.203	75.442	80.172
Peer	66.048[a]	1.430	63.238	68.859
Conventional	48.585[a]	.719	47.170	49.999

a. Covariates appearing in the model are evaluated at the following values: pre –test eco = 38.04.

Table 4.1.2: Pairwise Comparison of Students Achievement in Economics by Treatment

(I) treatment	(J) treatment	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Portfolio	Peer	11.758*	1.878	.000	7.243	16.274
	Conventional	29.222*	1.394	.000	25.870	32.575
Peer	Portfolio	-11.758*	1.878	.000	-16.274	-7.243
	Conventional	17.464*	1.614	.000	13.583	21.344
Conventional	Portfolio	-29.222*	1.394	.000	-32.575	-25.870
	Peer	-17.464*	1.614	.000	-21.344	-13.583

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons.

From Table 4.1.1, the students in PfA group had the highest mean score ($\bar{x}$=77.81), followed by those in PeA group ($\bar{x}$ = 66.05) and conventional group. Table 4.1.2showed the pairwise multiple comparisons which indicated that there was a significant mean difference between the achievement of students in portfolio and peer assessment. The mean difference between the portfolio and peer assessment (11.76), peer and conventional (17.45) as well as the mean difference between portfolio and conventional (29.22) were significant.

4.2. Ho_{2a}:There is no significant main effect of teacher competence on students' achievement in Economics.

To test this hypothesis, a one-way ANCOVA test was conducted. Table 4.1 revealed that there was significant effect of teacher competence on students' achievement in Economics, $F_{(1, 393)}$=10.82 $p<0.05_{(0.00)}$, partial η^2=0.03. The effect size (3%) of teacher competence on the dependent variable was considerably low. The null hypothesis that there is no significant main effect of teacher competence on students' achievement in Economics was therefore rejected. This implies that teacher competence had an effect on improvement of students' achievement in Economics. Also, the Table shows that the partial eta squared was estimated to be 0.03; this indicated that teacher competence accounts for 3% of the variance observed on the students' achievement in Economics. The results of the estimated marginal means and pairwise comparison of students' achievement in Economics are displayed in Table 4.2 and Table 4.2.1

Table 4.2: Estimated Marginal Means of Achievement by Teacher Competence

Teacher competence	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Low	61.966[a]	1.237	59.533	64.398
High	66.327[a]	.474	65.395	67.260

a. Covariates appearing in the model are evaluated at the following values: pre-test eco = 38.04.

Table 4.2.1: Pairwise Comparison of Students Achievement in Economics by Teacher competence

(I)teacher competence	(J)teacher competence	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Low	High	-4.362*	1.326	.001	-6.969	-1.755
High	Low	4.362*	1.326	.001	1.755	6.969

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons

Teacher Competence on Achievement in Economics

Table 4.2 presents the mean score of the students along teacher competence. The Table shows that scores are considerably different between the two groups, high [$\bar{x}$ =66.33], and low [$\bar{x}$ = 61.97). Table 4.2.1shows the pairwise comparison which indicated that there was a significant mean difference between teachers with high competence and those with low competence (4.36). This would imply that teachers with high competence impacted on students in their achievement in Economics.

4.3. Ho_{3a}:There is no significant main effect of school type on students' achievement in Economics.

In order to test the significance of the main effect of school type on students' achievement in Economics a one-way ANCOVA test was run. From Table 4.1, it was evident that there was no significant effect of school type on students' achievement in Economics, $F_{(1, 393)} = 0.00$, $p > 0.05_{(0.96)}$, partial $\eta^2 = 0.00$, with (0%) effect size of school type on the students' achievement in Economics. The null hypothesis that there is no significant main effect of school type on students' achievement in Economics was therefore accepted. This implies that, school type has no effect on students' achievement in Economics

Also, the Table shows that the partial eta squared was estimated to be 0.00; this indicated that school type accounts for 0% of the variance observed on the student's achievement in Economics. The results of the estimated marginal means and pairwise comparison of student's achievement in Economics are displayed in Table 4.3 and Table 4.3.1.

Table 4.3: Estimated Marginal Means of Achievement by School Type

School type	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Public	64.173[a]	.559	63.074	65.272
Private	64.120[a]	1.208	61.745	66.496

a. Covariates appearing in the model are evaluated at the following values: pre-test eco = 38.04.

Table 4.3.1: Pairwise Comparison of Students' Achievement in Economics by School Type

Schtype (I)	Schtype (J)	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
Public	Private	.053	1.338	.969	-2.578	2.683
Private	Public	-.053	1.338	.969	-2.683	2.578

Based on estimated marginal means

a. Adjustment for multiple comparisons

Achievement in Economics and School Type

Table 4.3 presents the mean score of the students along school type and it shows that scores are not considerably different between the two groups, public [$\bar{x}$ = 64.17] and High [$\bar{x}$ = 64.12]. Table 4.3.1 showed the pairwise comparison which indicates that there was a no significant mean difference between public school and the private school (0.05). This implies that school type has no effect on the achievement of students in Economics.

4.4. Ho_{4a}:There is no significant interaction effect of treatment and teacher competence on students' achievement in Economics.

From Table 4.1, it is evident that there was no significant interaction effect of treatment and teacher competence on students' achievement in Economics, $F_{(2, 393)}$=0.188, p> $0.05_{(0.82)}$, partial η^2=0.00. The effect size (0.0%) of interaction of treatment and teacher competence was negligible. The null hypothesis that there is no significant interaction effect of treatment and teacher competence on students' achievement in Economics was therefore accepted.This implies that the treatment when taken with teacher competence had no effect on students' achievement in Economics.

Table 4.4: Estimated Marginal Mean of achievement in Economics by Treatment*Teacher competence

Treatment	Teacher competence	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Portfolio	Low	75.812[a]	2.320	71.251	80.373
	High	79.801[a]	.632	78.558	81.044
Peer	Low	64.168[a]	2.749	58.763	69.573
	High	67.929[a]	.769	66.417	69.441
Convention	Low	45.917[a]	1.041	43.870	47.964
al	High	51.252[a]	1.015	49.257	53.248

a. Covariates appearing in the model are evaluated at the following values: pre-test eco = 38.04.

Interaction of Treatment and Teacher Competence on Students' Achievement in Economics

Although there was no significant interaction effect of treatment and teacher competence on achievement in Economics, there is still a need to examine where the interaction lies. Table 4.4 presents the mean score of the students in Economics in terms of treatment and teacher competence. The Table showed that in each of the treatment groups, teachers with high competence had a higher mean score than those with low teacher competence. PfA group: high [$\bar{x}$ = 79.80, low [$\bar{x}$ = 75.81]; PeA group: high [$\bar{x}$ = 67.93], low [$\bar{x}$ = 64.17] and CoA group: high [$\bar{x}$ = 51.25], low [$\bar{x}$ = 45.92].

4.5. Ho_{5a}: There is no significant interaction effect of treatment and school type on students' achievement in Economics.

From Table 4.1, there was significant effect of interaction of treatment and school type on students' achievement in Economics, $F_{(2, 393)}$=10.85, $p<0.05_{(0.00)}$, partial η^2=0.05. Interaction of treatment and school, type had an effect size of (5.0). The null hypothesis that there is no interaction effect of treatment and school type on students' achievement in Economics was therefore rejected. This implies that the treatment and school type had an effect on the improvement of student's achievement in Economics. Also, the Table shows that the partial eta squared was estimated to be 0.05, indicating that treatment and school type accounted for 5% of the variance observed on the students' achievement in Economics. The results of the estimated marginal means of students' achievement in Economics are displayed in Table 4.5.

Table 4.5: Estimated Marginal Mean Score in Achievement in Economics by Treatment and Teacher Competence

Treatment	School type	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Portfolio	Public	74.723[a]	.967	72.821	76.624
	Private	80.891[a]	2.200	76.566	85.216
Peer	Public	70.981[a]	.897	69.219	72.744
	Private	61.116[a]	2.700	55.806	66.425
Conventional	Public	46.815[a]	1.065	44.721	48.908
	Private	50.355[a]	.996	48.397	52.312

a. Covariates appearing in the model are evaluated at the following values: pre-test eco = 38.04.

Interaction of Treatment and School Type on Achievement in Economics

Table 4.5 presents the mean score of the students in Economics in terms of treatment and school type. Since there was significant interaction effect of treatment and teacher competence on soft skills, there is the need to examine where the interaction lies. Table 4.5 showed that, in PfA group those in private school had the highest mean score of $\bar{x}$ = 80.89, followed by those in PeA group in public schools with mean score of $\bar{x}$ = 70.98 and lastly by those in CoA group in private schools with mean of $\bar{x}$ = 50.36. This implies that portfolio is most effective in private school and peer assessment is best in public schools.

4.6. Ho_{6a}:There is no significant interaction effect of teacher competence and school type on students' achievement in Economics.

Table 4.1 shows the composite table for the one-way tests. From Table 4.1 there was no significant effect of interaction of teacher competence and school type on students' achievement in Economics, $F_{(1, 393)}$ =0.61, $p>0.05_{(0.43),}$ partial η^2=0.00. The effect size (0.0 %) of interaction of teacher competence and school type was negligible. The null hypothesis that there is no interaction effect of teacher competence and school type on students' achievement in Economics was therefore not rejected. This implies that the teacher competence and school type had no effect on the improvement of students' achievement in Economics. Also, the Table shows that the partial eta squared value was estimated to be 0.00; this indicated that teacher competence and school type accounted for 0% of the variance observed on the students' achievement in Economics. The results of the estimated marginal means of students' achievement in Economics are displayed in Table 4.6.

Table 4.6: Estimated Marginal Mean of achievement in Economics by Teacher competence and School Type

School type	Teacher competence	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
Public	Low	62.512[a]	.850	60.840	64.184
	High	65.833[a]	.715	64.429	67.238
Private	Low	61.419[a]	2.325	56.849	65.989
	High	66.822[a]	.657	65.530	68.113

a. Covariates appearing in the model are evaluated at the following values: pre-test eco = 38.04.

Achievement in Economics and Interaction of Teacher Competence and School Type

Although there was no significant interaction effect of teacher competence and school type, there is a need to examine where the interaction lies. Table 4.6 presents the mean score of the students in achievement in Economics in terms of teacher competence and school type.

Table 4.6 shows that students in the private school and under the tutelage of teachers with high teacher competence had the highest mean score ($\bar{x}$ = 65.83) in achievement in Economics after the treatment.

4.7. Ho_{7a}: There is no significant interaction effect of treatment, teacher competence and school type on students' achievement in Economics.

Table 4.1, shows there was significant effect of interaction of teacher competence and school type on students' achievement in Economics, $F_{(2, 393)}=3.76$, $p<0.05_{(0.02)}$, partial $\eta^2=0.02$ with effect size of (2.0 %). The null hypothesis that there is no interaction effect of treatment, teacher competence and school type on students' achievement in Economics was therefore rejected. This implies that the treatment, teacher competence and school type had an effect on the improvement of students' achievement in Economics. Also, the Table shows that the partial eta squared value was estimated to be 0.02; thus indicating that treatment, teacher competence and school type accounted for 2% of the variance observed on the students' achievement in Economics. The results of the estimated marginal means of students' achievement in Economics are displayed in Table 4.7.

Table 4.7: Estimated Marginal Means of Achievement in Economics, Interaction of Treatment, Teacher Competence and School Type

School type	Treatment	Teacher competence	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
Public	Portfolio	Low	71.470[a]	1.681	68.166	74.775
		High	77.975[a]	.939	76.128	79.822
	Peer	Low	72.505[a]	1.365	69.821	75.188
		High	69.458[a]	1.167	67.162	71.753
	Conventional	Low	43.562[a]	1.438	40.735	46.388
		High	50.067[a]	1.514	47.091	53.044
Private	Portfolio	Low	80.154[a]	4.318	71.664	88.644
		High	81.627[a]	.854	79.948	83.307
	Peer	Low	55.831[a]	5.301	45.410	66.252
		High	66.400[a]	1.002	64.429	68.371
	Conventional	Low	48.272[a]	1.454	45.414	51.130
		High	52.437[a]	1.420	49.646	55.229

Table 4.7 shows the scores of the students' achievement in Economics along treatment, teacher competence and school type. The Table shows that students in PfA group of high teacher competence group which are in private schools had the highest mean score ($\bar{x}$=81.63) in Economics followed by those in PeA of low teacher competence which are in public schools with a mean score of ($\bar{x}$=72.51). This implies that, to improved students' achievement in private schools' portfolio assessment should be used and to improve students' achievement in Economics in public schools, peer assessment should be used.

4.8. Ho_{1b}: There is no significant main effect of treatment (PfA, PeA and CoA) on students' soft skills.

In order to test the significance of the main effect of treatment (PfA, PeA and CoA) on the students' soft skills, a one-way ANCOVA test was run. Table 4.8 shows the composite table for the one-way tests of Between-Subjects Effects.

Table 4.8: Summary of Analysis of Covariance (ANCOVA) of Students' Soft Skills in Economics by Treatment (PfA, PeA and CoA), Teacher Competence and School Type

Source	Type III Sum of Squares	Df	Mean Square	*F*	Sig.	Partial Eta Squared
Corrected Model	30036.903[a]	12	2503.075	94.017	.000	.742
Intercept	3833.662	1	3833.662	143.995	.000	.268
Tpresoftskill	5252.237	1	5252.237	197.277	.000	.334
Treatment	6859.531	2	3429.765	128.824	.000	.396
Teachercompt	131.095	1	131.095	4.924	.027	.012
Schtype	117.033	1	117.033	4.396	.037	.011
treatment * teachercompt	278.723	2	139.362	5.235	.006	.026
treatment * schtype	95.746	2	47.873	1.798	.167	.009
teachercompt * schtype	1.182	1	1.182	.044	.833	.000
treatment * teachercompt * schtype	27.640	2	13.820	.519	.595	.003
Error	10463.097	393	26.624			
Total	1055500.000	406				
Corrected Total	40500.000	405				

a. R Squared = .742 (Adjusted R Squared = .734)

As seen in Table 4.8, there was significant effect of treatment (PfA, PeA and CoA) on the students' soft skill, $F_{(2, 393)}=128.82$, $p<0.05_{(0.00)}$, partial $\eta^2=0.40$. The effect size (40%) of treatment on the dependent variable was substantial. The null hypothesis that there is no significant main effect of treatment on students' soft skills in Economics was therefore rejected. This implies that the treatment improved students' soft skills in Economics. The adjusted R squared value of .742 shows that the independent variables accounts for 74.2% of the variance observed on students' academic soft skills in Economics. Also, the Table shows that the partial eta squared value was estimated to be 0.396. This indicated that treatment accounts for 39.6% of the variance observed on the students' soft skills in Economics. The results of the estimated marginal means and pairwise comparison of students' soft skills in Economics are displayed in Table 4.8.1 and Table 4.8.2.

Table 4.8.1: Estimated Marginal Means by Treatment (PfA, PeA and CoA)

treatment	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Portfolio	56.216[a]	.834	54.576	57.856
Peer	51.833[a]	.979	49.909	53.757
conventional	41.645[a]	.543	40.578	42.712

a. Covariates appearing in the model are evaluated at the following values: tpresoftskill = 50.0000.

Table 4.8.2: Pairwise Comparison of Students Soft Skills in Economics by Treatment

(I) treatment	(J) treatment	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Portfolio	Peer	4.384*	1.281	.002	1.311	7.456
	Conventional	14.571*	.971	.000	12.242	16.900
Peer	Portfolio	-4.384*	1.281	.002	-7.456	-1.311
	Conventional	10.188*	1.107	.000	7.534	12.841
conventional	Portfolio	-14.571*	.971	.000	-16.900	-12.242
	Peer	-10.188*	1.107	.000	-12.841	-7.534

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Sidak.

Treatment on Soft Skill

Since there was a significant effect of treatment on students' soft skill, there was the need to examine how students performed in each treatment group. Table 4.8.1 reveals that students in PfA group had the highest mean score ($\bar{x}$=56.22), followed by PeA group ($\bar{x}$=51.83) and CoA group ($\bar{x}$= 41.65). Table 4.8.2showed the pairwise multiple comparisons which indicated that there was a significant mean difference between the students' soft skills in portfolio and peer assessment. The mean difference between the portfolio and peer assessment group ($\bar{x}$= 4.38), peer and conventional group ($\bar{x}$=-10.19) as well as the mean difference between portfolio and conventional group ($\bar{x}$=-14.57) were significant.

4.9 Ho_{2b}:There is no significant main effect of teacher competence on students' soft skill.

Table 4.8 revealed that there was significant effect of teacher competence on students' soft skill, $F_{(1, 393)} = 4.92$, $p<0.05_{(0.03)}$, partial $\eta^2=0.01$. The effect size (1.0%) of teacher competence on the dependent variable was considerably low. The null hypothesis that there is no significant main effect of teacher competence on students' soft skills in Economics was therefore rejected.This implies that teacher competence has an effect on improvement of students' soft skills in Economics. Also, the Table shows that the partial eta squared value was estimated to be 0.01; thereby indicating that treatment accounts for 1.0% of the variance observed on the students' soft skills in Economics. The results of the estimated marginal means and pairwise comparison of students' soft skills in Economics are displayed in Table 4.9 and Table 4.9.1.

Table 4.9: Estimated Marginal Means of soft skills by Teacher Competence

Teacher Competence	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Low	51.076[a]	.943	49.221	52.931
High	48.720[a]	.355	48.022	49.418

a. Covariates appearing in the model are evaluated at the following values: tpresoftskill = 50.0000.

Table 4.9.1: Pairwise Comparison of Students Soft Skills in Economics by Treatment

(I) Teacher competence	(J) Teacher Competence	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Low	High	2.356*	1.062	.027	.269	4.444
High	Low	-2.356*	1.062	.027	-4.444	-.269

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Sidak.

Teacher Competence and Students' Soft Skills in Economics

Table 4.9 presents the mean score of the students along teacher competence. The Table shows that scores are considerably different between the two groups, low [$\bar{x}$ = 51.08] and High [$\bar{x}$ = 48.72]. Table 4.9.1 showed the pairwise comparison which indicated that there was a significant mean difference between teacher with low competence and those with high competence (2.36). This implies that teacher competence was significant (0.03) and it has little effect on the soft skills of students in Economics.

4.10. Ho_{3b}:There is no significant main effect of school type on students' soft skill.

Table 4.8 shows that there was significant effect of school type on students' soft skill, $F_{(2, 393)}$=4.40, $p<0.05_{(0.04)}$, partial η^2= 0.01. The effect size (1.0%) of school type on the dependent variable was considerably low. The null hypothesis that there is no significant main effect of school type on students' soft skills in Economics was therefore rejected. This implies that school type had an effect on the improvement of students' soft skills in Economics although very negligible. Also, the Table shows that the partial eta squared value was estimated to be 0.01; thus indicating that treatment accounts for 1% of the variance observed on the students' soft skills in Economics. The results of the estimated marginal means and pairwise comparison of students' soft skills in Economics are displayed in Table 4.10 and Table 4.10.1

Table 4.10: Estimated Marginal Means of Soft Skills by School Type

Schtype	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Public	50.871[a]	.436	50.015	51.728
Private	48.925[a]	.833	47.287	50.562

a. Covariates appearing in the model are evaluated at the following values: tpresoftskill = 50.0000.

Table 4.10.1: Pairwise Comparison

(I) schtype	(J) schtype	MeanDifferenc (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
Public	Private	1.947*	.929	.037	.121	3.772
Private	Public	-1.947*	.929	.037	-3.772	-.121

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Sidak.

School type on student's Soft skill in Economics

Table 4.10 presents the analysis of the students' scores in soft skill along the school type. The table shows that those in public schools have a mean score of [$\bar{x}$ = 50.87], and private [$\bar{x}$ = 48.93]. Table 4.10.1 shows the pairwise comparison which indicated that there was a significant mean difference between public school and the private school (1.95). This implies that public schools in Oke-Ogun were better at improving the soft skills of student's in Economics than private schools in the same location.

4.11. H_{o4b}:There is no significant interaction effect of treatment and teacher competence on students' soft skills in Economics.

Table 4.8 reveals that there was significant effect of interaction of treatment and teacher competence on students' soft skills in Economics, $F_{(2, 393)} = 5.24$, $p < 0.05_{(0.01)}$, partial $\eta^2 = 0.03$. The effect size (3.0%) of interaction of treatment and teacher competence was low. The null hypothesis that there is no interaction effect of treatment and teacher competence on students' soft skill in Economics was therefore rejected. This implies that the treatment and teacher competence had an effect on the improvement of students' soft skills in Economics although very low. Also, the Table shows that the partial eta squared value was estimated to be 0.03; thus indicating that treatment accounts for 3% of the variance observed on the students' soft skills in Economics. The results of the estimated marginal means of students' soft skills in Economics are displayed in Table 4.11.

Table 4.11: Estimated Marginal Mean Score Economics by Treatment*Teacher Competence

Treatment	Teacher competence	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Portfolio	Low	58.446[a]	1.646	55.210	61.682
	High	53.987[a]	.477	53.049	54.925
Peer	Low	53.655[a]	1.906	49.908	57.401
	High	50.011[a]	.563	48.904	51.117
Conventional	Low	41.128[a]	.851	39.456	42.800
	High	42.162[a]	.699	40.787	43.537

a. Covariates appearing in the model are evaluated at the following values: tpresoftskill = 50.0000.

Interaction of Treatment and Teacher Competence on Students' Soft Skills

Since there was significant interaction effect of treatment and teacher competence on soft skills, there is the need to examine where the interaction lies. Table 4.11 shows the scores of the students in the soft skills along treatment and teacher competence. Teacher competence of those in PfA group had the highest mean score ($\bar{x}$ =58.45 followed by those in PeA group ($\bar{x}$ = 53.66) and CoA group ($\bar{x}$ = 42.16). The Table also shows that students in the PfA treatment group whose teacher competence level was low had the highest mean score in soft skills in Economics after the treatment.

4.12. Ho_{5b}: There is no significant interaction effect of treatment and school type on students' soft skills in Economics.

Table 4.8 shows that, there was no significant effect of interaction of treatment and school type on students' soft skills in Economics, $F_{(2, 393)}$=1.80, $p>0.05_{(0.17),}$ partial η^2= 0.01. The effect size (1.0%) of interaction of treatment and school type was very low and it did not impact significantly on the mean differences in mean scores in students' soft skills in Economics. The null hypothesis that there is no interaction effect of treatment and school type on students' soft skills in Economics was therefore not rejected. This implies that the treatment and school type had no effect on the improvement of students' soft skills in Economics. Also, the Table shows that the partial eta squared value was estimated to be 0.01; this indicated that treatment and school type accounted for 1% of the variance observed on the students' soft skills in Economics. The results of the estimated marginal means of students' soft skills in Economics are displayed in Table 4.12.

Table 4.12: Estimated Marginal Mean by Treatment and School Type

Treatment	School Type	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Portfolio	Public	58.200[a]	.686	56.852	59.549
	Private	54.232[a]	1.518	51.247	57.218
Peer	Public	52.609[a]	.615	51.399	53.818
	Private	51.057[a]	1.857	47.406	54.707
Conventional	Public	41.805[a]	.792	40.247	43.363
	Private	41.485[a]	.692	40.125	42.845

a. Covariates appearing in the model are evaluated at the following values: tpresoftskill = 50.0000.

Soft skills and Interaction of Treatment and School Type

Table 4.12 presents the mean score of the students in mean scores of students' soft skills in Economics in terms of treatment and school type. Although there was no significant interaction effect of treatment and school type on soft skills, there is still the need to examine where the interaction lies. Table 4.12 showed the scores of students' soft skills in Economics along treatment and school type. The Table showed that, in PfA group those in public school had the highest mean score of $\bar{x}$ = 58.20, followed by those in PeA group in public schools with mean score of $\bar{x}$ = 52.61 and lastly by those in CoA group in public schools with mean of $\bar{x}$ = 41.81. This implies that, to improve students' soft skills in Economics, portfolio and peer assessments are more effective in public schools than in private schools.

4.13. Ho_{6b}:There is no significant interaction effect of teacher competence and school type on students' soft skill.

Table 4.8 revealed that there was no significant effect of interaction of teacher competence and school type on students' soft skill, $F_{(1, 393)}$=0.04, p>$0.05_{(0.83),}$ partial η^2=0.0. The effect size (0.0 %) of interaction of teacher competence and school type was negligible. The null hypothesis that there is no interaction effect of teacher competence and school type on students' soft skills in Economics was therefore not rejected. This implies that teacher competence and school type had no effect on the improvement of students' soft skills in Economics. Also, the Table shows that the partial eta squared value was estimated to be 0.00; thus indicating that teacher competence and school type accounted for 0% of the variance observed on the students' achievement in Economics. The results of the estimated marginal means of students' achievement in Economics are displayed in Table 4.13.

Table 4.13: Estimated Marginal Mean by Teacher Competence and School Type

Teacher Competence	School Type	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Low	Public	52.146[a]	.754	50.663	53.629
	Private	50.006[a]	1.637	46.787	53.226
High	Public	49.597[a]	.489	48.635	50.559
	Private	47.843[a]	.491	46.878	48.808

a. Covariates appearing in the model are evaluated at the following values: tpresoftskill = 50.0000.

Soft skills and Interaction of Teacher Competence and School Type

Though, there was no significant interaction effect of teacher competence and school type on students' soft skills in Economics, there was still the need to examine where the interaction lies. Table 4.13 presents the mean scores of the students in soft skill in terms of teacher competence and school type. Table 4.13 shows that students in the public school and whose teacher competence was low had the highest mean score in soft skill ($\bar{x}$ = 52.15) followed by those in public school with high teacher competence ($\bar{x}$ =50.01).

4.14. Ho_{7b}:There is no significant interaction effect of treatment, teacher competence and school type on the students' soft skills in Economics.

As seen in Table 4.8, there was no significant interaction effect of treatment, teacher competence and school type on students' soft skills, $F_{(2\ 393)}$=0.52, $p>0.05_{(0.59),}$ partial η^2=0.00. The effect size (0.0%) of interaction of treatment, teacher competence and school type was negligible. The null hypothesis that there is no interaction effect of treatment, teacher competence and school type on students' soft skills in Economics was therefore accepted. This implies that the treatment, teacher competence and school type had no effect on the improvement of students' soft skills in Economics. Also, the Table shows that the partial eta squared value was estimated to be 0.00; this indicated that treatment, teacher competence and school type accounted for 0% of the variance observed on the student's soft skills in Economics. The results of the estimated marginal means of students' achievement in Economics are displayed in Table 4.14.

Table 4.14: Soft Skill and Interaction of Treatment, Teacher Competence and School Type

Treatment	Teacher competence	School type	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
Portfolio	Low	public	60.621[a]	1.272	58.121	63.121
		Private	56.270[a]	2.990	50.391	62.149
	high	Public	55.780[a]	.667	54.469	57.090
		Private	52.194[a]	.627	50.962	53.427
Peer	Low	Public	54.975[a]	.959	53.090	56.861
		Private	52.334[a]	3.663	45.134	59.535
	high	Public	50.243[a]	.814	48.642	51.843
		Private	49.779[a]	.737	48.330	51.228
Conventional	Low	Public	40.842[a]	1.129	38.621	43.062
		Private	41.414[a]	1.069	39.312	43.517
	high	Public	42.769[a]	1.040	40.724	44.813
		Private	41.556[a]	.963	39.663	43.448

a. Covariates appearing in the model are evaluated at the following values: tpresoftskill = 50.0000.

Table 4.14 shows the scores of the students in the soft skill along treatment, teacher competence and school type. However students in PfA group with low teacher competence in public schools had the highest mean score ($\bar{x}$ = 60.62) in Economics.

4.15 Discussion of the findings

The result showed that there was a significant main effect of treatment (PfA, PeA) on students' achievement in Economics. It also revealed that participants in PfA had the highest mean value in achievement followed by those in PeA. This could be due to the fact that portfolio and peer assessment allows students'participation in the assessment process and also to organise their learning as well as objectively assess themselves. It might also be as a result of their effective means of measuring students' performance based on genuine samples of students' work, and ability to provide flexibility in measuring how students accomplish their learning goals, promotes student's self-evaluation, reflection, and critical thinking. It enables teachers and students to share the responsibility of setting learning goals and evaluating progress towards meeting those goals. It also affords students the opportunity to have deeper understanding of the concepts taught.

The finding on PfAcorroborates that of Song and August (2002) who found that portfolio assessment is as effective as any standardised test in predicting students' achievement in an English language course, as students are likely to pass their final examinations better when evaluated with portfolio assessment. Also it supports the finding of Çakan, Mihladiz and Göçmen-Taşkin (2010) that the use of portfolio assessment improved academic achievement and attitude of students to science, where the students in the portfolio, as experimental group demonstrated higher achievement and better attitude towards science lesson than the control group. The finding on PeAalso corroborates the finding of Double, McGrane and Hopfenbeck (2018) who found that peer assessment is a good formative practice when effectively implemented in the classroom and also that the involvement of learners in the assessment process enhances learning.

The resulton PeAaffirms the observation of Stiggins and Chappuis (2004) who claimed that students are viewed to be passive actors in the conventional form of assessment rather than active learners in the new forms (peer assessment) where learners acquire the ownership of their learning. Similarly, the result (PfA and PeA) confirms that of William and Thompson (2008) who found that contrary to the traditional forms of assessment, learners play a considerable role in assessment process in formative assessment. Stiggins and Chappuis (2004) reinforced the above point, stating that,

classroom assessment which involves students in the process and focuses on increasing learning, can motivate rather than merely measure students' achievement. Stiggins and Chappuis (2004) emphasised the importance of students' involvement in assessment, stating that it helps them to project their future plans and learning goals. Furthermore, this finding confirms that of Mertler (2003) which observed that involving students in the process of assessment not only reduces the burden of work for the instructor, but also assures students that they are viewed as active members who are responsible for their own progress.

However, the finding on PfA negates the finding of Venn (2000) who stated that portfolio assessment involves additional time to plan an assessment system, and also that gathering all the necessary data and work samples can make portfolio bulky and difficult to manage. The finding equally disproves the finding of Koretz, Stecher, Klein and McCafirey, (1994)who sampled schools for two years and found improvement in mathematics, but not in reading, using portfolio assessment. The finding study on PeA negates that of Falchikov (2005) who was of the opinion that poor performers might not accept peer feedback as perfect. Falchikov explained further that students might not be willing to accept any responsibility for assessing their peers, especially in a small socially unified group.

The result showed that there was a significant main effect of treatment (PfA, PeA) on students' soft skills. Among the treatments, the finding revealed that participants in PfA had the highest mean value, followed by participants in PeA. This finding may be attributed to the efficacies of portfolio assessment and peer assessment being student-centered assessments that are based upon information from multiple sources, multiple evaluation methods and tools. Attribution of efficacy could also be due to the fact that portfolio assessmentinvolves students actively participating in their own assessment, with this,inspire students to grow independently and become self-directed learners

The finding of this study affirms that of Van Zundert, et al (2010) who discovered that the integration of portfolio assessment and peer assessment in the curriculum develop communication, leadership, time management, problem solving and decision making skills, thereby promoting active learning. Furthermore, these assessment strategies also provide more interesting, effective, and exciting learning experiences for students and teachers, as new ideas and perspective will be produced, and more discussion and

debate will occur. This finding also supports that of Asuru and Ogidi (2013), who discovered that, soft skills complement teaching and help to improve students' academic performance and characters as they have direct impact on learning and grades.

The finding on PfA is in agreement with Lassudrie, Adam, Arzel and Baux (2015) who revealed that though in traditional assessment quizzes, exams, and assignments are often used to assess individual performance, they are however not enough to accurately measure soft skills such as interpersonal and leadership skills. The finding also affirms that of Birgin (2003) who found that the use of portfolio assessment produced more reliable and dynamic data about students for teachers, parents and also students themselves. Birgin also established that using portfolio assessment method in primary schools provides clear information about students, fulfilling their weaknesses and helps teachers' planning teaching progress.

However, the finding on PeAnegates the finding of Newstead and Dennis, (1994) who discovered that those who are new to peer assessment might also be concerned about issues of reliability and validity. The finding also negates the findings of Birgin (2003) and Chen et al., (2000) who found that information from portfolio assessments can be difficult to analyse since it is time consuming for teachers to score students' works and to assess students' performance over time in crowded classrooms.

The result from the study revealed that teachers' competence was significant on students' achievement in Economics. This result aligns with the finding of Adediwura and Bada (2007) who found in their study that nobody could teach what he does not understand or know. The authors went further to state that the teachers must thoroughly understand the content of what they teach. A teacher, whose understanding of topic is thorough, uses clearer language, their discussion is more connected, and they provide better explanations than those whose background is weak.

The finding is in agreement with that of Fuller (2010) who observed that a competent teacher possess sufficient skills, is knowledgeable in his/her subject area and is able to implement this in the teaching and contents delivery of their lessons; thereby improving academic performance of the learners. These results are in accord with that of Darling-Hammond (2000) who found that assigning competent and experienced

teachers who are also proficient in teaching resources to a low performing school will improve performance of students. The finding also corroborates that of Mullen (cited in Adeyemi and Adu, 2012) who submitted that, the level of a teacher's subject competence is a prime predictor of students' learning achievement. Mullenargued that it is not only the qualifications obtained by a teacher that could contribute to a teacher's subject competence but actual achievement in terms of knowledge on the subject matter.

The finding was in agreement with that of: Cochran-Smith (2002); Lasley, Siedentop, and Yinger (2006) who observed that teachers' competence enhance teachers' abilities to create an environment that is fair, understanding, and accepting of diverse students, ideas, experiences, and backgrounds. The finding also supports the findings of Adeyemi-Adewoyin and Amusa (2018) who found that teachers' qualities (Teacher competence, Teacher qualification and Teacher proficiency in English) were found to have significantly influenced students' communication skills and students' academic achievements. Also, teacher English proficiency tends to have significant impact on students' communication skills. Furthermore, teacher qualification significantly best predicts students' academic achievements.

However, the finding negates that of Rabo (2018) who in the study of relationship between teacher competence, school climate and academic performance of public secondary school students observed from the qualitative analysis aspect of the study that majority of the teachers teach without instructional materials which will help them demonstrate the lesson effectively, they teach citing examples verbally to students, whereas, some students do not know what the teacher is referring to because they have not seen such things before and if a student asks what is it, the teacher will say it is not available in the school.

There was a significant main effect of teacher competence on students' soft skills. The result was as a result of portfolio assessment and peer assessment methods. The teachers really demonstrated enough competence using alternative assessment methods used in this study. Research (Cochran-Smith, 2002; Lasley, Siedentop, and Yinger, 2006; Rabo, 2018) has confirmed that of all factors under the control of a school, teachers are the most powerful influence on students' success. Teachers are also expected to lay emphasis on mastery of subject matter, understanding of human nature,

interest in continued professional improvement of knowledge, attending of conferences, workshops and seminars, have good classroom control, effective communication skills, utilise variety of teaching methods or strategies and show enthusiasm for teaching which they all exercised to develop in the students and necessary soft skills.

The finding on soft skills is in agreement with Kanokorna, Pongtorna and Sujanyac (2013) who found that teachers who had developed their soft skills (communication, presentation and innovative skills), had improved and modified lesson plan and were innovative. They also discovered that their students had high level of learning achievement; students were happy with their teachers' teaching style and also had a well-developed communication, presentation and problem-solving skills.

The finding corroborates the finding of Hattie (2009) that better learning happens in a dynamic setting in which teachers offer clear and active instructions than in situations in which teachers do not actively guide instruction and instead, focus attention on content and pace of instruction. The finding also supports the finding of Banerjee, Das and Mohanty (2014) who found that students differ significantly in achievements in Life Science subject as a result of teaching by high or low competent teachers and high or low teaching effectiveness. This result is also in agreement with the findings of Schulz (2008) who revealed thatembedding the training of soft skills into the subject taught is a very effective and efficient method of achieving both an attractive way of teaching a particular content and an enhancement of soft skills which will help in shaping students' character.

The main effect of school type on students' achievement in Economics was not statistically significant. This means that there was very little variation in students' score between the public and private school students. In other words, the performance of students in each group (public and private schools) differs from one another with students in public schools recording the best performance, followed by their counterparts in private schools. The result of this finding corroborates the finding of Newhouse and Beegle (2005) in the study of "effect of school type on academic performance using test scores". The authors found that public school students have higher score than private school students. It likewise supports the findings of Yusuf and Adigun (2010) who found that school type, students' gender and location had no

significant influence on students' academic performance. The finding also supports the finding of Igbinedion and Epumepu (2011) who found that public school students performed better than those of private schools. However, the finding negates the finding of Birgin and Baki (2007) who observed that students who schooled at private secondary schools enjoyed a wage premium of at least 75 percent over public school students and performed better in their academics.

The result reveals that there was no significant effect of school type on students' achievement in Economics this may be due to the fact that, the nature of public schools is input oriented organisations accountable to bureaucracy and regulation that inhibit performance in public school. This finding negates the discoveries of Lubienski and Lubienski (2008) that there was a significant relationship between school type and students' academic achievement. Likewise, the finding is in discord with that of Adeboye (2009) who submitted that students in private schools performed better than students in public schools, leading parents to prefer private schools to public schools.

The result is in accord with Ndukwe (2002) who submitted that school type whether the school is a co-education or single sex had no significant difference on students' achievement. However, Yusuf and Adigun (2010) observed that it seems many parents believe that children cannot perform well academically in co-education schools, therefore, prefer to enroll their children in single sex school where performance in academic is better.

The result revealed that, there was a significant main effect of school type on students' soft skill. The finding revealed that participants in public schools have the highest mean value, followed by participants in private schools. This could be as a result of the interest shown by students in public schools in skills development than their counterparts in private schools. The finding negates the finding of Rice (2010) who found that many public schools abound with comparatively inadequate or inappropriate training and less experienced teachers, poorly equipped laboratories and classrooms for instruction and inadequate access to computers and other learning facilities. The finding also negates the finding of Okon and Archibong (2015) in their study of school type and students' academic performance in Social studies in Junior Secondary Certificate Examination in Akwa Ibom State, where they found that education is free and compulsory, but there was no quality.

The finding further negates the finding of Shabiralyani, Hasan, Hamad and Iqbal, (2015) who pronounced that in addition to educational materials supplied to schools, the school setting based on school type also influences teaching/learning of the students and hence, the level of students' academic achievements. Thus, the specific type of school dictates what is taught, how it is taught and what materials are available. Shabiralyani, et,al further maintained that where educative materials are deprived, students suffer from academic deterioration and mental imbalance.

The interaction effect of treatment and teacher competence on student's achievement in Economics was not significant. The two variables taken together did not have significant effect on student's achievement in Economics. This could be because portfolio and peer assessment methods which are hinged on constructivism encourage students to construct their own learning and develop new knowledge on their own. It also affords students with many accounts of realism, emphasises knowledge on production and not regurgitation, contextualizes assignments, nurtures philosophical practice and backs collaborative construction of knowledge through social compromise. This finding corroborates that of Zhang (2012) and Oyelekan (2014) who discovered that, peer assessment and self-assessment were effective in improving students' academic performance in IT software usage and physics respectively and that peer assessment offers feedback between students and also allows students to make comparisons with each other

The result is in agreement with the findings of Birgin and Baki (2007) who submitted that even with low teacher competence, students in portfolio assessment group performed better than those in traditional assessment. Also, it is in support of Ugodulunwa and Wakjissa (2015), who found that the use of portfolio assessment technique improved the performance of students in map sketching and location. Likewise, it corroborates that of Suwaed (2018), who observed that, appraising of portfolio can intensify the students' participation in and ownership of their own learning providing students opportunities to become actively involved in assessment and learning.

The interaction effect of treatment and teacher competence was statistically significant on students' soft skills. The effect of treatment on students' soft skills was significant, likewise teacher competence has significant effect, perhaps, that was the reason the

interaction effect was statistically significant. This could be that the teachers in the selected schools embraced the idea of using the portfolio and peer assessment methods not considering that the two methods are cumbersome in nature. This finding supports the finding of Mullin (1998) who found that portfolio allows teachers to have new perspective in education by answering of questions such as what kind of troubles do students have? Which activities are more effective or ineffective? What subjects are understood and not understood? How efficient is the teaching process?

The interaction effect of treatment and school type was statistically significant on students' achievement in Economics. The interaction effects of treatment and school type accounted for 5.0% of the variance experienced in students' achievement in Economics. The study showed that the effect of treatment (PfA and PeA) was affected by school type. The finding also showed that at the treatment level, private school had the higher mean when compared to that of the public school with those in PfA having the highest mean of 80.89. This might be due to the fact that private schools are receptive of new innovations/assessment of improving students' academic performance than their counterparts in public schools. This finding is in agreement with that of Okonkwo (2002) who found that students who attended private schools came in better prepared than those from public schools. Okonkwo observed that pupils in private primary schools are better academic achievers than their counterparts in public primary schools and that private schools are adequately equipped with human and material resources as those resources are channelled towards purposefully improving educational objectives authoritatively through the constant supervision of the school owner.

The finding also supports that of Azigwe, Adda, Awuni and Kanyomse (2016) who from the longitudinal studies of the effect of school type on students' achievement in mathematics (2013-2014) using multilevel modelling and taken into account the hierarchical structures of schools discovered that students in private schools did better than those in public schools and this was accounted for by the composition of students in private schools.

The interaction effect of treatment and school type on student' soft skills were not statistically significant. The interaction effect of treatment and school type accounted for less than one percent of the variance experienced in students' soft skills. Private

school had the highest mean scores at the three levels of the treatments. This could be as a result of the fact that teachers in private and public schools teach and prepare their students differently for both internal and external examinations. The private school owners monitor the performance of their teachers through the performance of the students, while it is hardly done in public schools. This could be the reason why the interaction effect of treatment and school type was not statistically significant. This finding negates that of Ahmad (2013) who found that those in public schools had higher mean score and performed better across seven categories of soft skills (leadership, communication, lifelong learning & information management, teamwork, entrepreneurial, critical thinking and problem solving skills and values, ethics and professionalism skills) than those in private schools. The findingagrees with that of Ngah, et al, (2011), where it was discovered that students in public schools had developed better communication skills than those in private schools.

The interaction effect of teacher competenceand school type on students' achievement in Economics was not statistically significant. The interaction effects of teacher competence and school type accounted for less than one percent of the variance experienced in students' achievement in Economics. Though, the main effect of teacher competence on students' achievement in Economics was significant while that of school type was not significant, this implies that the competence of a teacher is not dependent on the school (private or public), but may be due to the other factors like different content knowledge, classroom management, qualification and the inability to communicate the topic taught effectively to the students. This finding is in support of Ajeyalemi (2005) who revealed that an effective teacher of any subject must demonstrate competence of the subject matter as well as the philosophy and goals of teaching that subject at that level, competence of general and subject-specific teaching strategies, knowledge of the learner, learning theories, principles, methods and good personality as a leader as well as positive attitudes to the students and the subject matter. Likewise, the finding is in agreement with Adediwura and Bada (2007) who found in their study that nobody could teach what he does not understand or know. They also found that teachers must thoroughly understand the content of what they teach and use clearer language in teaching. This implies that, the teacher should therefore, master the subject matter before teaching commences and the schools, private or public, should allow teachers to teach subjects they are qualified to teach.

The interaction effect of teacher competence and school type was not statistically significant on students' soft skills. The interaction effect of teacher competence and school type accounted for zero percent of the variance experienced in student's soft skill. While interaction effect of treatment, teacher competenceand school type on students' achievement in Economics was statistically significant, though the effect size was low. The interaction effect of treatment, teacher competence and school type accounted for less than two percent of the variance experienced in student's achievement in Economics. Though, the effect of treatment and teacher competence on student's achievement in Economics was not significant but that of school type and treatment (interaction effect) was significant. Also, looking at the main effects of the three (treatment, teacher competence and school type) on academic achievement, only that of school type was not significant. This implies that, the effective use of any assessment to improve students' academic achievement is not influenced by the school type (private or public).

Likewise, in the use of portfolio and peer assessments, students are provided with the opportunity to demonstrate what they know of the subject and this motivated them to learn more by influencing them to produce work samples that showed their level of knowledge gained per time. This finding supports that of Cakan, Mihladiz and Gocmen-Taskin (2010) which observed that portfolio assessment significantly improved learning outcome in grade six science lessons as students learn the concepts more effectively, are abler to visualise and relate their works and that of peers to the scientific theories to which they have been introduced.

The interaction effect of treatment, teacher competence and school type was not statistically significant on students' soft skills. The interaction effects of treatment, teacher competence and school type accounted for less than one percent of the variance experienced in students' soft skills. The study revealed that when each of the variables is taken separately, they had significant influence on students' soft skills in Economics, but when treatment and school type are taken together, there is no significant effect on students' soft skills in Economics. This may be the reason why the interaction effect of treatment, teacher competence and school type was not statistically significant.

This finding supports that of Olamigoke (2019) who found that the interaction effect of treatment, interest and self-efficacy had no meaningful effect on students' skill

acquisition in Business studies concepts. The findings negate that of Reyes et al, (2012), in which the interaction effects of Program Training, Dosage, and Implementation Quality had contributed majorly to the acquisition of social and emotional skills of students.

The interaction effect of treatment, teacher competence and school type was statistically significant on students' academic achievement in Economics. The interaction effect had 2% improvement on students' academic achievement in Economics. The findings are in disagreement with Olamigoke (2019) who found that treatment, interest and self-efficacy had no joint interaction effect on students' academic achievement in Business studies. The findings are in agreement with Alkharusi (2008) who discovered that class contextual features and teachers' teaching experiences and assessment practices jointly contributed significantly to students' academic achievement in science.

The result revealed that students' had better scores from both the portfolio assessment and peer assessment than the conventional assessment. The results corroborate the findings of Birgin and Baki (2007) who found that when comparing portfolio to conventional assessment, portfolio was superior. Likewise,Double, McGrane and Hopfenbeck(2018) who found out that peer assessment is remarkable and effective to improve learning.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary of the findings in this study, implications of the study, the conclusion, recommendations, limitations of the study, suggestions for further studies and contributions to knowledge.

5.1 Summary of Findings

In this knowledge and skill economy the expectation is that secondary school graduates should be self-reliant and have acquired hard skills with some well-developed soft skills to help survive in the real world. These skills are to be acquired through the teaching of secondary subjects like Economics which help to develop skills for self and national development. The performance of students in WAEC, at the national, state and Oke-Ogun in particular has been unsatisfactory which lead to this study.

The study investigated the effect of portfolio and peer assessment strategies to improve not only academic performance but to enhance soft skills of students with the moderator variables of teachers' competence and school type. Using a non-randomized pretest, posttest quasi experimental design on some secondary school Economics students in public and private schools in Oke-Ogun.

The summary of the study are as follows:

1. The two alternative assessment strategies (portfolio assessment and peer assessment) in this study improved students' academic performance and enhanced development of their soft skills in Economics.
2. The moderator variable of teacher competence improved academic performance and soft skills of the students.
3. School type (public or private) as a moderator variable did not improve students' academic performance but engendered the development of their soft skills.

4. When taken together, the two assessment strategies (portfolio and peer) with teacher competence did not improve students' academic achievement, however, it positively improved their soft skills.
5. Although the interaction effect of portfolio and peer assessment with school type improved students' academic achievement, it did not enhance the development of their soft skills.
6. The interaction effect of teacher competence and school type did not improve students' academic achievement nor enhanced development of their soft skills.
7. The interaction effect of the two alternative assessment strategies (portfolio and peer), teacher competence and school type enhanced students' academic achievement but did not developed their soft skills.
8. Students scored higher in portfolio assessment and peer assessment strategies when compared to conventional assessment.

5.2 Implications of the Findings

The implications of these findings are highlighted below:

For Students

There is evidence from this study that portfolio and peer assessment methods are effective in improving students' achievement and development of communication, problem-solving and teamwork skills (soft skills) in Economics. The implication is that, students who are exposed to alternative assessment strategies (portfolio and peer) have the ability to construct their own knowledge, own their work thereby improving their academic performance and enhance the developmentof their soft skills.

For Teachers

Teachers in public and private secondary schools whoreview and useportfolio and peer assessment strategies in the classroom allows students to actively participate in the assessment method and construct knowledge. Thereby, improving students' participation, interest, academic performance and enhance soft skills of the studentsin Economics.

For School Manager/Administrator

School administrators that have a positive disposition towards portfolio and peer assessment strategies, introduce them to the teachers and encourage their use will see improvement in the academic performance and high development of soft skills in

students. When they consider the teacher's area of expertise before allocating subjects to them it improves competency of the teacher and invariably the academic achievement of the students.

For Parents

Parents are able to see the progress of their children and wards at a glance while going through their portfolio folder. It also provides them easy access to the portfolio folder for reference purposes,likewise shows that when students assess each other, it will improve the development of their soft skills (communication, teamwork and problem-solving).

For Other Researchers/Evaluators

The research findings expand the frontiers of research as the results can be used as a baseline study and a point of reference on which they can improve on. They should note that, when students are exposed to portfolio and peer assessment strategies the are well prepared for the knowledge and skills economy. Therefore, they should research into other alternative assessment methods to ascertain the ability to improve academic performance and enhancement of soft skills of students.

For Policy Makers

Policy makers that exposes school administrators and teachers to effective planning, training and use of portfolio and peer assessment strategies through the use of the subjects' curriculum, encourages them to be innovative and creative will see a resultant positive effect on the academic performance of student and development of soft skills.

5.3 Conclusion

The findings of this study provide empirical evidence that alternative assessment strategies used in this study (portfolio and peer) were effective in significantly improving students' academic performance and also development of students' soft skills. This is an indication that when students are involved in the assessment strategies used in teaching and learning process, they perform better. Therefore, it can be said that these assessment strategies are good and may also be used in the teaching and learning of other school subjects. The study showed that a teacher who is said to be competent must have content knowledge, proper classroom management, be able to ask students questions that will motivate them to acquire knowledge and make students participate actively in the assessment process. It likewise, showed that a competent

teacher will be able to develop in the students' communication, problem-solving and teamwork skills.

In the same vein, the study revealed that school type (public or private) really has no effect on either the academic performance of the students but aided the development of communication, problem-solving or teamwork skills. Therefore, it is the strategy of assessment and a competent teacher in the subject that can effectively impact on the academic performance and aid the development of these soft skills.

5.4 Recommendations

The following recommendations are made based on the findings of this study.

1. Portfolio and peer assessment strategies should be adopted in the teaching and learning of Economics at the secondary school level.
2. Students should take advantage of portfolio and peer assessment strategies to improve their study habit.
3. Teachers should be encouraged to embrace portfolio assessment and peer assessment to improve achievement and development of soft skills in Economics
4. Policy makers should organize seminars, workshop and conferences to sensitise school administrators, teachers, students and parents on the use of portfolio assessment and peer assessment.
5. School administrators should supervise and ensure the effective use of portfolio assessment and peer assessment strategies by teachers with the active participation of students.
6. Policy makers should review Economics curriculum to include the development of relevant soft skills in the subject as well as other subjects.

5.5 Limitations of the study

The scope of this study was limited to Oke-Ogun area of Oyo State. The study was conducted at the senior secondary school level. This study only covered Economics. The assessment strategies used were limited to portfolio assessment and peer assessments. The study was also limited to two moderator variables of school type and

teacher competence. The study used participants from co-educational secondary school.

5.6 Suggestions for Further Studies

1. This study investigated the effect of portfolio and peer assessment strategies on students Economics learning outcomes only in Oke-Ogun, Oyo state. Other studies could replicate it in other parts of Oyo state or other parts of Nigeria.

2. The study used Economics as a subject which is an elective. Other studies could look at other electives subjects or compulsory subjects in secondary schools.

3. The study was limited to the use of teacher competence and school type as moderator variables. It is therefore, suggested that the study can be done using different moderator variables such as classroom management, principal leadership style andteacher job satisfaction

4. This study focused on two alternative assessment strategies which are portfolio assessment and peer assessment. Further research could look into other forms of alternative assessment such as writing folders, journals and diaries keeping, hierarchical assessment andaudio visual recordings.

5. This study was a quasi- experimental one, other studies can conduct a meta-analysis of portfolio assessment and peer assessment strategies.

6. Co-educational public and private schools were used in this study; others can use single-sex schools or combine single-sex with co-educational schools.

7. The soft skills used in this study were communication, problem-solving and teamwork skills, other studies could use other types of soft skills such as leadership, conflict management and empathy.

5.7 Contributions to Knowledge

1. The study has established that portfolio and peer assessment strategies enhanced students' learning outcomes in Economics.

2. The study has also ascertained that students' participation in teaching, learning assessment engenders greater learning outcomes in Economics.
3. The study has likewise confirmed that portfolio assessment and peer assessment developed and improved students' soft skills in Economics.

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APPENDIX I
PERFORMANCE OF CANDIDATES IN WAEC BETWEEN 2001-2017

Summary of WAEC analysis of Economics in Nigeria from 2001-2017

Year	Total number of candidates for WAEC	Number of candidates for (Economics)	Percentage of credit level (A1-C6) in WAEC (Economics)	Percentage of pass and fail levels (D7 – F9) in Economics
2001	1,099,296	785,807	18.42	81.58
2002	1,224,381	868,532	22.25	77.75
2003	1,039,028	885,807	42.99	57.01
2004	1,051,246	794,503	38.19	61.81
2005	1,091,763	802,155	36.24	63.76
2006	1,184,210	411,065	49.44	50.56
2007	1,275,466	702,613	39.03	60.97
2008	1,369,142	530,131	49.23	50.77
2009	1,373,009	622,560	39.50	60.50
2010	1,321,781	689,876	34.54	65.46
2011	1,190,511	540,250	42.00	58.00
2012	1,508,965	695,878	38.81	61.19
2013	1,550,224	689,188	36.57	63.43
2014	1,399,178	692,435	31.28	68.72
2015	1,547,140	593,442	38.67	61.33
2016	1,176,621	676,621	32.85	67.15
2017	1,559,162	489,546	28.63	71.37

Source: WAEC, 2018

APPENDIX II
PREFROMANCE OF CANDIDATES IN WAEC IN OYO STATE

Table 1.2: Summary of WAEC analysis of Economics from 2004-2017 in Oyo State

S/N	Year	Total No of candidates	No of candidates for Economics	Percentage of credit (A1-C6)	Percentage of pass (D7-E8)	Percentage of fail
1	2004	30,225	29,341	40.73	24.00	35.27
2	2005	34,225	34,290	12.50	26.93	58.96
3	2006	45,703	38,572	21.92	33.11	44.97
4	2007	49,743	49,712	22.32	33.86	43.82
5	2008	51,343	34,229	10.89	35.69	52.41
6	2009	49,535	24,581	14.63	22.81	60.29
7	2010	52,041	40,265	26.86	34.28	37.74
8	2011	46,971	45,309	23.77	36.91	39.27
9	2012	41,359	40,710	20.58	31.91	45.47
10	2013	43,357	42,710	32.06	5.06	61.48
11	2014	45,591	31,989	22.82	25.99	48.29
12	2015	54,404	28,006	18.31	22.74	56.91
13	2016	40,934	27,093	27.24	27.10	42.72
14	2017	38,856	22,234	22.16	18.25	59.59

Source: Oyo State Ministry of Education Science and Technology (2018)

APPENDIX III
PREFORMANCE OF CANDIDATES IN WAEC IN OKE-OGUN

Summary WAEC Result in Economics in Oke-Ogun

S/N	Local Govt. Area	2014		2015		2016		2017	
		NC	A1-C6 (%)	NC	A1-C6 (%)	NC	A1-C6 (%)	NC	A1-C6 (%)
1	Atisbo	378	12.7	359	12.7	284	34.9	232	24.6
2	Irepo	---	----	224	25.45	281	66.5	224	28.6
3	Iseyin	1214	12.4	1253	23.3	1336	52.0	1258	33.2
4	Itesiwaju	----	----	-----	----	216	25.0	186	19.4
5	Iwajowa	662	37.3	356	67.1	341	34.0	256	35.9
6	Kajola	1406	62.7	734	43.3	657	14.6	584	13.0
7	Olorunsogo	304	21.0	194	19.1	112	16.1	98	24.5
8	Oorelope	120	50.8	205	54.2	117	45.3	102	47.0
9	Saki-East	253	17.0	276	17.0	325	53.2	258	48.1
10	Saki-West	1185	21.3	1651	28.8	857	31.0	652	35.6

NC – Number of Candidates

Source: Oyo State Ministry of Education, Science and Technology (2018)

APPENDIX IV
***INSTITUTE* OF EDUCATION**
UNIVERSITY OF IBADAN, IBADAN, NIGERIA

ECONOMICS ACHIEVEMENT OBJECTIVE TEST

SECTION A: Students' Demographic Data
Gender: Male ( ) Female ( )
Type of school: Public ( ) Private ( )
SECTION B:Instruction: Read the questions carefully. Answer all questions.
Duration: 2hrs

INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN
ECONOMICS ACHIEVEMENT OBJECTIVE TEST

SECTION A: Students' Demographic Data
Gender: Male ( ) Female ( )
Type of school: Public ( ) Private ( )
SECTION B:
Instruction: Read the questions carefully. Answer all questions.
Duration: 2hrs

1. Measure of dispersion is also known as -----.
    a) measure of variables
    b) measure of disparity
    c) measure of variability
    d) d measure of dimension.
2. Variance is --------.

a) mean square deviation.
b) mode square deviation.
c) median square deviation
d) Minimum square deviation.

3. The law of demand will hold when ---------.
    a) the consumer's income increases
    b) consumer's income decreases
    c) consumer's income changes
    d) consumer's income is constant.
4. Demand schedule is divided into ---- and -------.
        a. individual and consumer
        b. individual and market
        c. consumer and market
        d. consumer and product.

b) Demand curve shows the relationship between ----and -------.

a. quantity and demand
b. demand and supply
c. quantity and price
d. price and supply.

c) The production possibility curve is----------.

a. directly connected to opportunity forgone
b. directly connected to opportunity cost
c. indirectly connected to opportunity forgone
d. indirectly connected to opportunity cost.

d) Concepts of utility is -------

a. place
b. time
c. marginal
d. production

e) Abnormal supply is caused by---------.

a. rising wages

b. fall in wages
c. rising labour
d. fall in labour.

f) Variable cost is-------.
a. TC + FC
b. FC + AC
c. TC - FC
d. AC – FC.

g) Average fixed cost curve falls as---------.
a. output increases
b. output deceases
c. input increases
d. input decreases.

h) When a consumer consumes a successive unit of a commodity, at a point additional unit yields -------.
a. more satisfaction
b. less satisfaction
c. constant satisfaction
d. zero satisfaction.

i) Law of demand will hold when
   a. there will be no change in taste and preference of the consumer
   b. there is change in the quantity of the product
   c. the habit of consumer changes
   d. there is change in consumer's income

j) Effective demand is when there is
   a. Ability and income to pay
   b. Ability and need to pay
   c. Income and ability to pay
   d. Ability and willingness to pay

k) Law of diminishing marginal utility can be used to explain the slope of -------
   a. normal demand curve
   b. abnormal demand curve
   c. demand schedule
   d. abnormal demand shift

l) Effective supply refers to total production offered for sale at ------
   a. a particular price
   b. a ruling price
   c. a constant price
   d. a demand price

m) Function of commercial bank is ---------.

a. Printing money
b. Discounting bills of exchange
c. Printing cheques
d. Current account

a.

n) ----- is the use of income and expenditure instrument or policies to control or regulate the economic activities in a country.
   a. Fiscal policy
   b. Government policy
   c. Company policy
   d. Tax policy

   a.

o) Government sources of revenue is ------
   a. Loans
   b. Revenue
   c. Needs
   d. Income

p) Total expenditure incurred by public authorities at all levels of administration in the country is called-------.
   a. Government expenditure
   b. Public expenditure
   c. Private expenditure
   d. Individual expenditure

q) Government expenditure can be classified into ------- and ------.
   a. Capital and recurrent
   b. Recurrent and public
   c. Public and capital
   d. Capital and public

r) Expenses which are repeated on yearly or regular basis is known as--------.
   a. Recurrent expenditure
   b. Public expenditure
   c. Capital expenditure
   d. Fiscal policy

s) A factor that contributes to the increase in government expenditure is -------.
   a. Trade
   b. Industry
   c. Poverty
   d. Communication

t) Savings is a reason why government impose ------.
   a. Demand

b. Supply
c. Forestry
d. Tax

u) Taxation has an economic effect on ---------.
   a. Salaries of workers
   b. Employment
   c. Flexibility
   d. Simplicity

v) There are ---- types of tax
   a. 5
   b. 4
   c. 3
   d. 2

w) Tax that is imposed directly on the income of individuals or organization by the government by the government or its agency is--------.
   a. Indirect tax
   b. Direct tax
   c. Income tax
   d. Company tax

x) Taxes which are levied on goods and services is refered to as……..
   a. Indirect tax
   b. Direct tax
   c. Income
   d. Company tax

y) Budget is divided into -------- and --------.
   a. Balanced and surplus
   b. Regressive and progressive
   c. Balanced and regressive
   d. Progressive and surplus

z) All payment made directly for the materials used during the course of production is referred to as--------.
   a. Implicit cost
   b. Total cost
   c. Explicit cost
   d. Fixed cost

aa) A period of time in which all factor input in a production process are variable is called?.
   a. Long-run cost
   b. True cost
   c. Short-run cost
   d. Fixed cost

bb) The cost curve that cuts the average cost curve from below at its lowest point is called--------.

a. Total cost
b. Variable cost
c. Marginal cost
d. Fixed cost

cc) The average cost is obtained when the total cost is divided by ?.

a. Marginal output
b. Variable output
c. Total output
d. Fixed output

dd) The nation's cost of living is measured by the use of ?.

a. Index number
b. Price index
c. Inflation
d. Deflation

ee) The quality theory of money modified by the fisher is expressed by?.

a. MV=PT
b. MU=AU
c. TU=PV
d. MV=MU

ff) What occurs when the volume of purchases is permanently running ahead of production with too much money in circulation chasing too few goods?.

a. Deflation
b. Inflation
c. Fixed deposit
d. Cash reserve

gg) Hoarding is a cause of--------.

a. Deflation
b. Lending
c. Inflation
d. Taxation

hh) Increase in population is a cause of--------.

a. Inflation
b. Deflation
c. Taxation
d. Lending

ii) Effect of inflation is --------.

a. Creditors loss
b. Creditors gain
c. Credit facilities
d. Creditors thrift

jj) Budget surplus is a cause of ----------.

a. Deflation
b. Lending
c. Inflation
d. Taxation

kk) The high rate of inflation which exist as the same time as industrial production is slowly down is referred to as-------.
a. Disinflation
b. Reflation
c. Slumpflation

ll) A line used for data where emphasis is on a continuos change is called-------.
a. Graph
b. Pie graph
c. Line graph
d. Table

OUTPUT Q	**TOTAL COST TC**	**AVERAGE COST AC**	**MARGINAL COST MC**
1	18	8	-
2	14	C	F
3	A	6	G
4	20	D	H
5	B	6	I
6	48	E	J

Use the above table to answer questions 42-50

mm) At what output is AC at the minimum?
a. 20
b. 19
c. 18
d. 17

nn) At what output is MC at the minimum?
a. 15
b. 20
c. 25
d. 30

oo) At what output does MC start increasing?
a. 5
b. 6
c. 7
d. 8

pp) At what output does MC start to be greater than AC?
a. 5
b. 7
c. 9
d. 11

qq) What is the maximum output?

a. 3
b. 4
c. 5
d. 6

rr) What is F?

a. 3
b. 4
c. 5
d. 6

ss) What is G?

a. 3
b. 4
c. 5
d. 6

tt) What is H?

a. 2
b. 3
c. 4
d. 5

uu) What is I?

a. 5
b. 10
c. 15
d. 20

APPENDIX V
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN, NIGERIA

ECONOMICS ACHIEVEMENT ESSAY TEST

SECTION A: Students' Demographic Data
Gender: Male ( ) Female ( )
Type of school: Public ( ) Private ( )
SECTION B:Instruction: Read the questions carefully. Answer all questions.
Duration: 2hrs

1. The table below shows the age distribution of a hypothetical population

Age	No of people (million)
Under 20	20.90
20-29	13.75
30-49	12.10
50 and above	8.25
Total	55.00

Present the above information in the form of a pie chart. Show workings clearly.

(10 marks)

2. The raw scores of 20 students of Aiyedun Community High School who took part in Economics examination are:

38	20	64	66
39	34	70	43
12	46	52	53
20	20	64	69
18	28	48	43

   a. What is the mean score of the students' marks?
   b. How many students passed the examination?
   c. What percentage of the students failed the examination?
   d. What is the range of the scores?
   e. How many students scored below the mean score?

(10 marks)

3.
   a. Distinguish between;
      i. A Mortgage bank and Merchant bank
      ii. Commercial bank and a Development bank
   b. Explain any four functions of commercial banks. *(10 marks)*

APPENDIX VI
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN, NIGERIA

STUDENTS'SOFT SKIILS SCALE (SSSS)

INTRODUCTION

This rating scale is designed to identify the extent at which the students exhibit their soft skills in Economics. The information gathered will be strictly used for research and academic purpose only. Kindly tick ( ) the response as it applies. The options are Always, Sometimes, Rarely and Never. All responses will be treated with utmost confidentiality.

Thank you.

SECTION A: GENERAL INFORMATION

1. Name of school:…….
2. Class:……..…
3. School type: Private [ ] Public [ ]

SECTIONB:

Kindly rate yourself on the following: Excellent =4, Good =3, Fair =2, Poor =1.
Most of the time =4, Sometimes =3, Less than half of the time =2, Never =1.

S/N	Students' Soft Skills	Excellent	Good	Fair	Poor
A	**COMMUNICATION SKILLS**				
1	ability to express ideas clearly				
2	ability to explain ideas in English language				
3	Ability to express ideas without mixing English with local language				
4	speak properly to people				
5	explain ideas in ways that others can understands				
6	Creativity in writing				
7	ability to understand information easily				
8	able to write in ways suitable for purpose				
9	ability to present my opinion in a well Written form				
10	ability to lay up reasonable argument to persuade others				
11	Sound presentation of facts				

12	easily understands the main idea of a discussion				
13	easily distracted during discussion				
14	Ability to always ask questions during discussion				
15	able to Listens attentively to others				
16	Ability to communicate key points to ensure others understand				
17	able to read information to people				
B	**PROBLEM SOLVING SKILLS**	**Most of the time**	**Sometimes**	**Less than half of the time**	**Never**
1	love to systematically solve problems				
2	easily adjust to suit any problem /situation				
3	capable of Using different sources of information to solve problems				
4	dislike being the one to proffer solution				
5	dislike being in a difficult situation				
6	love using the appropriate technique to solve problems				
7	usually rely on others to solve problems in any circumstances				
8	use Random approach to solve problems				
9	Tensed when faced with difficult problems				
10	Easily use the information to solve problems				
11	find it difficult assess situations				
12	love seeking different point when faced with a problem				
13	creative in exploring possible solutions				
14	always avoid difficult situations				
15	easily identify problems in any circumstance				
16	Love taking up challenges				
C	**TEAMWORK SKILLS**	**Most of**	**Sometimes**	**Less**	**Never**

		the time		**than half of the time**	
1	work easily with people from the same background				
2	make sure team purpose is achieved				
3	treat members of group equally				
4	respects the opinion of others				
5	open to suggestions from others				
6	supportive of opinion of others				
7	find it difficult to understand opinion of others				
8	love providing constructive feedback				
9	dislike being critisied				
10	easily shares information with group members				
11	actively participate in group tasks				
12	effectively handles conflicts within team				
13	place team goals ahead of own				
14	usually the peace maker in a team				
15	find it difficult to work with others				
16	avoid been assign task in a team				
17	love working alone				
18	love sharing expertise with group members				
19	find it difficult to work with people				
20	contribute less when in a team				
21	find it difficult to work with people from different background				

APPENDIX VII
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN
SOFT SKILLS TEST

This Soft Skill Test is designed purposely for Educational Research. It is meant to find out your current soft skills. It is to be done in your group. It measures your oral communication, problem-solving and teamwork skills. Please kindly give your responses as objectively as you can to each question. Your sincere responses will go a long way to contribute to the success of the research work. Your utmost confidentiality is guaranteed.
Thanks for your co-operation.

SECTION A. (Students' Demographic Data).
Gender: Male ( ) Female ( )
Type of school: Public ( ) Private ( )
SECTION B: Instruction: Read the questions carefully. Answer all questions.
Duration: 1 Hour

1. Tolu (15), Tope (14), Taiwo and Kehinde (14), Kemi (13) and Tomisin (13) are friends right from primary to secondary school. They are all in arts class what will be the range, mean ,mean deviation, variance and standard deviation. *(10 marks).*

2. Tunde is a student preparing for his SSCE examinations. He has ₦15, 000 and needs to pay his WAEC fee, own a PlayStation 2, purchase an android phone which all cost ₦15, 000 each but cannot borrow,. *How will Tunde arrive at best option with his purchasing power among the available alternatives*?
(10 marks)

3. Mr Tope is a staff of ABC bank who just got promoted to assistant officer. Taiwo his son noticed that their household consumption of Garri has decreased; there is increase in demand for rice, beans, yam and cornflakes. Explain to him what is going on and what the goods to his family are. *(10 marks)*

4. Mama dupe is a cassava farmer that produces Garri and Lafun. Dupe noticed that when her mother produces

Cassava (Tonnes)	Garri (kg)	Lafun (kg)
3	50	10
5	70	25
7	100	50
10	130	60
15	200	75

a. What is the output (Garri/Lafun) per unit of the variable factor input?
b. What is the additional output arising from the use of a unit increase of variable input, keeping the amounts of all other input constant?
c. What is the maximum level of output that can be produced using different amount of the variable input while all other factors remain constant?
(10 marks)

5. Tope sells kerosene to Iya Samuel at ₦10, ₦24, ₦40, ₦60, ₦80 and ₦100 respectively but she cannot remember the quantity supplied. Determine the quantity supplied using the equation Qs=25+(0.25p). Prepare the supply schedule and curve to prove your point. *(10 marks)*

Note for each questions:

Rubric:

Oral presentation	**-**	**2 marks**
Written presentation	**-**	**2 marks**
Problem solving	**-**	**3 marks**
Teamwork	**-**	**3 marks**
Total	**-**	**10 marks**

APPENDIX VIII
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN

TEACHER COMPETENCE OBSERVATION SHEET

Section A

Name of school……

School Type: Public { } Private { }

Teacher Gender M { } F { }

Teacher Qualification: TCII { } NCE { } OND { } B. Ed { } B.A/BSc { } M.Ed { } others specify……

Class Observed…… No of Students……

Section B

Kindly rate the teacher on the following: Mostly Pre-dominant =4, Pre-dominant =3, Hardly Pre-dominant =2, Not Pre-dominant =1.

	ACTIVITIES	Mostly Pre-dominant	Pre-dominant	Hardly Pre-dominant	Not Pre-dominant
A	**Preparation**				
1	Lesson agrees with the curriculum outline				
2	Adequately prepared lecture note available				
3	Relevant lecture materials available				
4	Starts lecture on time				
B	**Knowledge of content**				
5	Teacher relates content to real life situation				
6	Teacher help students understand the connection between concepts				
7	Teacher writes notes on the board				
8	Teacher Reads from text book				
9	Teacher communicates subject content in precise and clear terms.				
10	Teacher Presents content step by step manner in English				
11	Teacher Illustrating appropriately with diagrams				
12	Teacher skillfully illustrate mathematical knowledge				
13	Fluent Language in communication				
14	Appropriate use of language				
15	Teaches in English				
16	Teacher presents lecture step by step in Yoruba				

17	Teacher uses examples to relate the ideas to students				
18	Teacher makes statements that stimulate thinking skills				
19	Teacher gives specific feedback				
20	Encourages students to express their ideas				
21	Teacher gives assignments				
22	Teacher uses the entire class period to lecture				
23	Teacher uses verbal praises				
24	Evaluation of students				
C	**Instructional Material utilization**				
25	Teacher demonstrates with Still Life Objects				
26	Teacher demonstrates with graphs				
27	Teacher demonstrate with ICT Materials				
28	Teacher explains with Charts				
29	Teacher draws chart on the chalk board				
30	Teacher draws tables				
31	Teacher calculates given data				
D	**Classroom Management**				
32	Teacher makes calls during classes				
33	Teacher Conversing with another teacher				
	Leaves the classroom unannounced				
34	Distract attention (eg.cell phone rings)				
35	Class disorganized				
36	Students wondering aimlessly				
37	Students fighting				
38	Whole class reacts diagrams on the board				
39	Whole class response to charts				
40	Whole class answer questions				
41	Whole class reads materials presented				
42	Students speaks without been called				
D	**Questioning**				
43	Teacher asks higher order questions				
44	Teacher asks lower order questions				
45	Teacher asks questions using graphs				
46	Teacher give clues to questions				
47	Teacher ask questions with tables				
48	Teacher asks question using charts				
49	Teacher ask students to differentiate concepts				
50	Teacher ask students to explain relationship between concepts				

APPENDIX IX
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN, NIGERIA
Operational Guide for the usage of Portfolio Assessment Treatment Package for Experimental Group 1

Week 1: Training of and discussion with research assistants**.**

Week 2: Pre-Test Administration

Week 3: TOPIC 1: TOOLS OF ECONOMICS ANALYSIS

- Lesson I : simple linear equation @40 minutes per period
- Lesson II: dispersion or variation @ 40 minutes per period
- Lesson III: standard deviation and variance @ 40 minutes per period
- Portfolio assessment

Week 4: TOPIC 2: TYPES OF DEMAND AND SUPPLY

- Lesson I: types of demand @ 40 minutes per period
- Lesson II: exceptional demand@40 minutes per period
- Lesson III: inter-related supply and exceptional supply @ 40 minutes per period
- Portfolio assessment

Week 5: TOPIC 3: ELASTICITY OF DEMAND

- Lesson I: types of elasticity of demand @40 minutes per period
- Lesson II: different degrees of elasticity of demand @ 40 minutes per period
- Lesson III: factors determining elasticity of demand@ 40 minutes by period
- Portfolio assessment

Week 6: TOPIC 4: ELASTICITY OF SUPPLY

- Lesson I; types of elasticity of supply @ 40 minutes per period
- Lesson II: measures of elasticity of supply @40 minutes per period
- Lesson III: determinants of elasticity of supply40 minutes per period
- Portfolio assessment

Week 7: TOPIC 5: THE PRODUCTION POSSIBILITY CURVE (PPC)

- Lesson I : production possibility curve @ 40 minutes per period
- Lesson II: concepts of production possibility curve @40 minutes per period
- Lesson III: laws of variable proportion @ 40 minutes per period
- Portfolio assessment

Week 8: TOPIC 6: BASIC COST CONCEPTS

- Lesson I: basic cost concepts 40 minutes per period
- Lesson II: definition of short-run and long-run costs @ 40 minutes per period
- Portfolio assessment

Week 9: Overall Review, Post-Test Administration and Conclusion

LESSON 1

TIME/DURATION: 40MINS/PERIOD
CLASS: SS2
SUBJECT: ECONOMICS
TOPIC: TOOLS OF ECONOMIC ANALYSIS
BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

i. Show simple economic relationship with tables (graphs and tables).

INSTRUCTIONAL MATERIALS:
REFERENCES: Economics recommended textbook and individual writing materials
PREVIOUS KNOWLEDGE:

Students have been taught basic tools in SS1.

INTRODUCTION: the teacher introduces the topic to the students
PRESENTATION
STEP 1: teacher uses real life situations to activate the students prior knowledge
STEP 2: teacher makes contents of the topic available to students
STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and marked by individual student
STEP 4; teacher uses real life situations or circumstances to explain the topic being taught
STEP 5; teacher re-explains the difficult concepts
EVALUATION;

i. What is range?
ii. What is standard deviation?
iii. What is variance?
iv. State the advantages of range, standard deviation and variance.

CONCLUSION: teacher summaries all that has been taught
ASSISGNMENT: Find the prices of ten different commodities used at home and find

- The range
- The standard deviation
- The variances

LESSON II

TIME/DURATION: 40MINS/PERIOD
TOPIC: TYPES OF DEMAND AND SUPPLY
SUB-TOPIC: DEMAND AND SUPPLY CURVES
BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

i. Explain the meanings of demand and supply and market equilibrium,
ii. Explain the factors affecting demand and supply
iii. Distinguish between factors causing shift in demand and supply curves and those causing movement along demand and supply curves
iv. Draw the schedules and curves to explain the changes
v. Distinguish between various types of demand

INSTRUCTIONAL MATERIALS: Economics recommended textbook and individual writing materials
PREVIOUS KNOWLEDGE/ ENTRY BEHAVIOUR: Students have knowledge of tools of economic analysis: Range, Standard Deviation and Variance.
PRESENTATION
STEP 1: teacher uses real life situations to activate the students prior knowledge
STEP 2: teacher makes contents of the topic available to students
STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and marked by individual student
STEP 4; teacher uses real life situations or circumstances to explain the topic being taught
STEP 5; teacher re-explains the difficult concepts
EVALUATION;

- What are the types of demand?
- What are the types of inter-related supply?
- Explain exceptional demand
- List causes of exceptional demand.

CONCLUSION: teacher summaries all that has been taught
ASSISGNMENT:

1. Using commodities around you, Gives examples goods in line with types of demand and inter-rated supply.
2. Using the prices of good in question 1, Draw the demand and supply curve of each commodity.
3. Using goods around you and their prices, give examples of abnormal demanded and supplied commodity.
4. Using details in question 3, draw an abnormal demand and supply curves of the commodity.

LESSON III

TIME/DURATION: 40MINS/PERIOD
TOPIC: ELASTICITY OF DEMAND
BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

I. Define elasticity of demand.
II. List the type of elasticity of demand.
III. Calculate the income elasticity between goods.
IV. Differentiate degrees of elasticity of demand and explain diagrammatically.
V. Explain and show diagrammatically the measures of elasticity of demand.

INSTRUCTIONAL MATERIALS: Economics recommended textbook and individual writing materials
PREVIOUS KNOWLEDGE/ ENTRY BEHAVIOUR: Students have been taught types of demand and supply.
PRESENTATION

STEP 1: teacher uses real life situations to activate the students prior knowledge
STEP 2: teacher makes contents of the topic available to students
STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and marked by individual student
STEP 4; teacher uses real life situations or circumstances to explain the topic being taught
STEP 5; teacher re-explains the difficult concepts
EVALUATION;

- What are the different degrees of elasticity of demand
- What are the measures of elasticity of demand
- What are the factors affecting elasticity of demand

CONCLUSION: teacher summaries all that has been taught
ASSISGNMENT:

Find the prices of ten commodity used in your household. The prices as at Dec 2018 and the prices as at April 2019.The quantity demand for as at Dec 2018 and April 2019.

- Put in a tabular form
- Find the co-efficient of elasticity of demand
- Calculate for two different types of degree of elasticity of demand.

LESSON IV

TIME/DURATION: 40MINS/PERIOD
TOPIC: ELASTICITY OF SUPPLY
BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

i. Define elasticity of supply.
ii. List the type of elasticity of supply.
iii. Calculate the elasticity of supply

INSTRUCTIONAL MATERIALS: Economics recommended textbook and individual writing materials
PREVIOUS KNOWLEDGE/ ENTRY BEHAVIOUR: Students have been taught elasticity of demand.
PRESENTATION
STEP 1: teacher uses real life situations to activate the students prior knowledge
STEP 2: teacher makes contents of the topic available to students
STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and marked by individual student
STEP 4; teacher uses real life situations or circumstances to explain the topic being taught
STEP 5; teacher re-explains the difficult concepts
EVALUATION;

- Explain determinants of elasticity of supply

CONCLUSION: teacher summaries all that has been taught
ASSISGNMENT:

- Find a Garri or iron pot-making factory around you find the price of the goods produces in Jan to April and the quantity supplied.
- Put the inform in a tabular form to calculate the elasticity of supply

.

LESSON V

TIME/DURATION: 40MINS/PERIOD

TOPIC: THE PRODUCTION POSSIBILITY CURVE (PPC)

BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

i. Define production possibility curve.
ii. Differentiate the concepts of production possibility curve.

INSTRUCTIONAL MATERIALS: Economics recommended textbook and individual writing materials

PREVIOUS KNOWLEDGE/ ENTRY BEHAVIOUR: Students have been taught elasticity of supply.

PRESENTATION

STEP 1: teacher uses real life situations to activate the students prior knowledge

STEP 2: teacher makes contents of the topic available to students

STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and marked by individual student

STEP 4; teacher uses real life situations or circumstances to explain the topic being taught

STEP 5; teacher re-explains the difficult concepts

EVALUATION;

Evaluation:

Use the table to answer the questions

Tonnes fertilizer applied	Total cassava produced in bags	Marginal product
0	1000	_
1	1100	100
2	1250	150
3	1500	250
4	----	400
5	----	250
6	----	125
7	2350	---
8	2380	----
9	2330	_

a. What will be the total output of cassava when no fertilizer is applied to the land
b. Calculate the total product after the application of the following quantities of fertilizer
   i. 4tonnes
   ii. 6 tonnes
   iii. 5 tonnes

c. Calculate the marginal product after the application of the following quantities of fertilizer
   i. 7 tonnes
   ii. 8 tonnes
   iii. 9 tonnes

CONCLUSION: teacher summaries all that has been taught

ASSISGNMENT:

Table 1:

No of workers employed	TP Tons	MP Tons	AP Tons
1	11	11	11
2	24	A	E
3	39	15	F
4	60	B	15
5	75	C	15
6	84	9	G
7	91	7	13
8	88	D	H

Use the table to calculate:

a. The values of the letters A,B,C,D,E,F,G,H
b. Use the value on the completed tables to plot graphs for AP and MP

LESSON VI

TIME/DURATION: 40MINS/PERIOD

TOPIC: BASIC COST CONCEPTS

BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

i. define the basic cost concept
ii. distinguish between economist and accountant view.
iii. calculate the total cost, average, marginal cost and fixed cost.

INSTRUCTIONAL MATERIALS: Economics recommended textbook and individual writing materials

PREVIOUS KNOWLEDGE/ ENTRY BEHAVIOUR: Students have been taught production productivity curve.

PRESENTATION

STEP 1: teacher uses real life situations to activate the students prior knowledge

STEP 2: teacher makes contents of the topic available to students

STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and marked by individual student

STEP 4; teacher uses real life situations or circumstances to explain the topic being taught

STEP 5; teacher re-explains the difficult concepts
EVALUATION;

Evaluation:

Output (q) Unit	Total fixed cost(TFC)₦	Total variable cost (TVC)₦	Total cost(TC)₦
(1)	(2)	(3)	2+3(4)
0	140	0	140
1	140	70	210
2	140	110	250
3	140	180	320
4	140	280	420
5	140	450	590
6	140	720	860
7	140	1120	1260
8	140	1680	1820

From the table:

a. Draw the graph of total cost, variable cost and total fixed cost.

Output(unit)
12
14
28
38
46
59

Using the table; give the cost equation of the firm in Naira as C=20+2q. where C is total cost and q is the quantity produced. Calculate

a. Total cost of producing
   i. 12 units
   ii. 28 units
b. The average cost when
   i. 46 units were produced
   ii. 59 units
c. The marginal cost when
   i. 38 units were produced

ii. 46 units were produced.

CONCLUSION: teacher summaries all that has been taught

ASSISGNMENT:

Output	Total cost (TC)	Average cost (AC)	Marginal cost (MC)
1	8	8	---
2	16	C	F
3	A	10	G
4	24	D	H
5	B	12	I
6	50	E	J

Use the information in the table to

a. Determine at what output total cost is at the minimum
b. Determine at what output is MC at the minimum
c. At what output does AC start increasing.

APPENDIX X
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN, NIGERIA

Operational Guide for the usage of Peer Assessment Treatment Package for Experimental Group II

Week 1: Training of and discussion with research assistants**.**

Week 2: Pre-Test Administration

Week 3: TOPIC 1: TOOLS OF ECONOMICS ANALYSIS

- Lesson I: simple linear equation @40 minutes per period (with soft skill task)
- Lesson II: dispersion or variation @ 40 minutes per period "
- Lesson III: standard deviation and variance@ 40 minutes per period "
- Peer assessment

Week 4: TOPIC 2: TYPES OF DEMAND AND SUPPLY

- Lesson I: types of demand @ 40 minutes per period
- Lesson II: exceptional demand @40 minutes per period
- Lesson III: inter-related and exceptional supply @ 40 minutes per period
- Peer Assessment

Week 5: TOPIC 3: ELASTICITY OF DEMAND

- Lesson I: types of elasticity of demand @40 minutes per period
- Lesson II: different degrees of elasticity of demand@ 40 minutes per period
- Lesson III: factors determining elasticity of demand@ 40 minutes by period
- Peer Assessment

Week 6: TOPIC 4: ELASTICITY OF SUPPLY

- Lesson I: types of elasticity of supply @ 40 minutes per period
- Lesson II: measures of elasticity of supply @40 minutes per period
- Lesson III: determinants of elasticity of supply 40 minutes per period
- Peer Assessment

Week 7: TOPIC 5: THE PRODUCTION POSSIBILITY CURVE (PPC)

- Lesson I : production possibility curve @ 40 minutes per period
- Lesson II: concepts of production possibility curve @40 minutes per period
- Lesson III: laws of variable proportion@ 40 minutes per period
- Peer Assessment

Week 8: TOPIC 6: BASIC COST CONCEPTS

- Lesson I :basic cost concepts40 minutes per period

- Lesson II: definition of short-run and long-run costs @ 40 minutes per period
- Peer assessment

Week 9: Overall Review, Post-Test Administration and Conclusion

LESSON 1

TIME/DURATION: 40MINS/PERIOD
CLASS: SS2
SUBJECT: ECONOMICS
TOPIC: TOOLS OF ECONOMIC ANALYSIS
BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

ii. Show simple economic relationship with tables (graphs and tables).

INSTRUCTIONAL MATERIALS: Economics recommended textbook and individual writing materials
PREVIOUS KNOWLEDGE:

Students have been taught basic tools in SS1.

INTRODUCTION: the teacher introduces the topic to the students
PRESENTATION
STEP 1: teacher uses real life situations to activate the students prior knowledge
STEP 2: teacher makes contents of the topic available to students
STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and mark by their peers in the group
STEP 4; teacher uses real life situations or circumstances to explain the topic being taught
STEP 5; teacher re-explains the difficult concepts
EVALUATION;

v. What is range?
vi. What is standard deviation?
vii. What is variance?
viii. State the advantages of range, standard deviation and variance.

CONCLUSION: teacher summaries all that has been taught
ASSISGNMENT: Find the prices of ten different commodities used at home and find

- The range
- The standard deviation
- The variances

LESSON II

TIME/DURATION: 40MINS/PERIOD
TOPIC: TYPES OF DEMAND AND SUPPLY
SUB-TOPIC: DEMAND AND SUPPLY CURVES
BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

i. Explain the meanings of demand and supply and market equilibrium,
ii. Explain the factors affecting demand and supply

iii. Distinguish between factors causing shift in demand and supply curves and those causing movement along demand and supply curves
iv. Draw the schedules and curves to explain the changes
v. Distinguish between various types of demand

INSTRUCTIONAL MATERIALS: Economics recommended textbook and individual writing materials

PREVIOUS KNOWLEDGE/ ENTRY BEHAVIOUR :Students have knowledge of tools of economic analysis: Range, Standard Deviation and Variance.

INTRODUCTION: the teacher introduces the topic to the students

PRESENTATION

STEP 1: teacher uses real life situations to activate the students prior knowledge

STEP 2: teacher makes contents of the topic available to students

STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and mark by their peers in the group

STEP 4; teacher uses real life situations or circumstances to explain the topic being taught

STEP 5; teacher re-explains the difficult concepts

EVALUATION;

- What are the types of demand?
- What are the types of inter-related supply?
- Explain exceptional demand
- List causes of exceptional demand.

CONCLUSION: teacher summaries all that has been taught

ASSISGNMENT:

1. Using commodities around you, Gives examples goods in line with types of demand and inter-rated supply.
2. Using the prices of good in question 1, Draw the demand and supply curve of each commodity.
3. Using goods around you and their prices, give examples of abnormal demanded and supplied commodity.
4. Using details in question 3, draw an abnormal demand and supply curves of the commodity.

LESSON III

TIME/DURATION: 40MINS/PERIOD

TOPIC: ELASTICITY OF DEMAND

BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

I. Define elasticity of demand.
II. List the type of elasticity of demand.
III. Calculate the income elasticity between goods.
IV. Differentiate degrees of elasticity of demand and explain diagrammatically.
V. Explain and show diagrammatically the measures of elasticity of demand.

INSTRUCTIONAL MATERIALS: Economics recommended textbook and individual writing materials

PREVIOUS KNOWLEDGE/ ENTRY BEHAVIOUR: Students have been taught types of demand and supply.

PRESENTATION

STEP 1: teacher uses real life situations to activate the students prior knowledge

STEP 2: teacher makes contents of the topic available to students

STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and mark by their peers in the group

STEP 4; teacher uses real life situations or circumstances to explain the topic being taught

STEP 5; teacher re-explains the difficult concepts

EVALUATION;

- What are the different degrees of elasticity of demand
- What are the measures of elasticity of demand
- What are the factors affecting elasticity of demand

CONCLUSION: teacher summaries all that has been taught

ASSISGNMENT:

Find the prices of ten commodity used in your household. The prices as at Dec 2018 and the prices as at April 2019.The quantity demand for as at Dec 2018 and April 2019.

- Put in a tabular form
- Find the co-efficient of elasticity of demand
- Calculate for two different types of degree of elasticity of demand.

LESSON IV

TIME/DURATION: 40MINS/PERIOD

TOPIC: ELASTICITY OF SUPPLY

BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

i. Define elasticity of supply.
ii. List the type of elasticity of supply.
iii. Calculate the elasticity of supply

INSTRUCTIONAL MATERIALS: Economics recommended textbook and individual writing materials

PREVIOUS KNOWLEDGE/ ENTRY BEHAVIOUR: Students have been taught elasticity of demand.

PRESENTATION

STEP 1: teacher uses real life situations to activate the students prior knowledge

STEP 2: teacher makes contents of the topic available to students

STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and mark by their peers in the group

STEP 4; teacher uses real life situations or circumstances to explain the topic being taught

STEP 5; teacher re-explains the difficult concepts
EVALUATION;

- Explain determinants of elasticity of supply

CONCLUSION: teacher summaries all that has been taught
ASSISGNMENT:

- Find a Garri or iron pot-making factory around you find the price of the goods produces in Jan to April and the quantity supplied.
- Put the inform in a tabular form to calculate the elasticity of supply

LESSON V

TIME/DURATION: 40MINS/PERIOD
TOPIC: THE PRODUCTION POSSIBILITY CURVE (PPC)
BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

i. Define production possibility curve.
ii. Differentiate the concepts of production possibility curve.

INSTRUCTIONAL MATERIALS: Economics recommended textbook and individual writing materials
PREVIOUS KNOWLEDGE/ ENTRY BEHAVIOUR: Students have been taught elasticity of supply.
PRESENTATION
STEP 1: teacher uses real life situations to activate the students prior knowledge
STEP 2: teacher makes contents of the topic available to students
STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and mark by their peers in the group
STEP 4; teacher uses real life situations or circumstances to explain the topic being taught
STEP 5; teacher re-explains the difficult concepts
EVALUATION;
Use the table to answer the questions

Tonnes fertilizer applied	Total cassava produced in bags	Marginal product
0	1000	_
1	1100	100
2	1250	150
3	1500	250
4	----	400
5	----	250
6	----	125
7	2350	---
8	2380	----
9	2330	_

d. What will be the total output of cassava when no fertilizer is applied to the land

e. Calculate the total product after the application of the following quantities of fertilizer
   iv. 4tonnes
   v. 6 tonnes
   vi. 5 tonnes
f. Calculate the marginal product after the application of the following quantities of fertilizer
   iv. 7 tonnes
   v. 8 tonnes
   vi. 9 tonnes

CONCLUSION: teacher summaries all that has been taught

ASSISGNMENT:

Table 1:

No of workers employed	TP Tons	MP Tons	AP Tons
1	11	11	11
2	24	A	E
3	39	15	F
4	60	B	15
5	75	C	15
6	84	9	G
7	91	7	13
8	88	D	H

Use the table to calculate:

a. The values of the letters A,B,C,D,E,F,G,H
b. Use the value on the completed tables to plot graphs for AP and MP

LESSON VI

TIME/DURATION: 40MINS/PERIOD

TOPIC: BASIC COST CONCEPTS

BEHAVIOURAL OBJECTIVES: By the end of the lesson, students should be able to

i. define the basic cost concept
ii. distinguish between economist and accountant view.
iii. calculate the total cost, average, marginal cost and fixed cost.

INSTRUCTIONAL MATERIALS: Economics recommended textbook and individual writing materials

PREVIOUS KNOWLEDGE/ ENTRY BEHAVIOUR: Students have been taught production productivity curve.

PRESENTATION

STEP 1: teacher uses real life situations to activate the students prior knowledge

STEP 2: teacher makes contents of the topic available to students

STEP 3: teacher groups the students and explains how they will relate the assignments to situations at home and mark by their peers in the group

STEP 4; teacher uses real life situations or circumstances to explain the topic being taught

STEP 5; teacher re-explains the difficult concepts

EVALUATION;

Evaluation:

Output (q) Unit	Total fixed cost(TFC)₦	Total variable cost (TVC)₦	Total cost(TC)₦
(1)	(2)	(3)	2+3(4)
0	140	0	140
1	140	70	210
2	140	110	250
3	140	180	320
4	140	280	420
5	140	450	590
6	140	720	860
7	140	1120	1260
8	140	1680	1820

From the table:

b. Draw the graph of total cost, variable cost and total fixed cost.

Output(unit)
12
14
28
38
46
59

Using the table; give the cost equation of the firm in Naira as C=20+2q. where C is total cost and q is the quantity produced. Calculate

d. Total cost of producing

iii. 12 units

iv. 28 units

e. The average cost when

iii. 46 units were produced

iv. 59 units

f. The marginal cost when

iii. 38 units were produced

iv. 46 units were produced.

CONCLUSION: teacher summaries all that has been taught

ASSISGNMENT:

Output	Total cost (TC)	Average cost (AC)	Marginal cost (MC)
1	8	8	---
2	16	C	F
3	A	10	G
4	24	D	H
5	B	12	I
6	50	E	J

Use the information in the table to

d. Determine at what output total cost is at the minimum
e. Determine at what output is MC at the minimum
f. At what output does AC start increasing.

APPENDIX XI

INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN, NIGERIA

Operational Guide for the usage of conventional assessment Package for Control Group

Week 1: Training of and discussion with research assistants**.**

Week 2: Pre-Test Administration

Week 3: TOPIC 1: TOOLS OF ECONOMICS ANALYSIS

- Lesson I: simple linear equation @40 minutes per period
- Lesson II: dispersion or variation@ 40 minutes per period
- Lesson III: standard deviation and variance@ 40 minutes per period
- Conventional assessment

Week 4: TOPIC 2: TYPES OF DEMAND AND SUPPLY

- Lesson I: types of demand@ 40 minutes per period
- Lesson II: exceptional demand@40 minutes per period
- Lesson III: inter-related supply and exceptional supply@ 40 minutes per period
- conventional assessment

Week 5: TOPIC 3: ELASTICITY OF DEMAND

- Lesson I: types of elasticity of demand@40 minutes per period
- Lesson II: different degrees of elasticity of demand@ 40 minutes per period
- Lesson III: factors determining elasticity of demand@ 40 minutes by period
- Conventional assessment

Week 6: TOPIC 4: ELASTICITY OF SUPPLY

- Lesson I: types of elasticity of supply@ 40 minutes per period
- Lesson II: measures of elasticity of supply@40 minutes per period
- Lesson III: determinants of elasticity of supply@ 40 minutes per period
- Conventional assessment

Week 7: TOPIC 5: THE PRODUCTION POSSIBILITY CURVE (PPC)

- Lesson I:production possibility curve @ 40 minutes per period
- Lesson II: concepts of production possibility curve@40 minutes per period
- Lesson III: laws of variable proportion@ 40 minutes per period
- Conventional assessment

Week 8: TOPIC 6: BASIC COST CONCEPTS

- Lesson I:basic costs concepts @40 minutes per period
- Lesson II: definition of short-run and long-run costs @ 40 minutes per period

- Conventional assessment

Week 9: Overall Review, Post-Test Administration and Conclusion

APPENDIX XII
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN, NIGERIA
SCORING GUIDES

Scoring guide for Economics objective achievement test

S/N	Key	S/N	Key
1	A	26	A
2	C	27	C
3	B	28	A
4	B	29	B
5	B	30	A
6	A	31	D
7	D	32	B
8	B	33	A
9	C	34	A
10	B	35	D
11	D	36	C
12	A	37	A
13	A	38	B
14	C	39	C
15	A	40	C
16	A	41	B
17	D	42	C
18	B	43	A
19	C	44	C
20	B	45	C
21	D	46	D
22	A	47	B
23	D	48	B
24	C	49	A
25	A	50	C

SCORING GUIDE FOR ECONOMICS ACHIEVEMENT ESSAY TEST

1. | Month | Price | Quantity Demanded |
|---|---|---|
| January | ₦5 | 20kg |
| February | ₦7 | 16kg |

(a) (i) Percentage change in price (₦7 - ₦5) 2/5 x 100/1 = 40%

(ii) Coefficient of price elasticity of demand

ED = Percentage change in quantity demanded

Percentage change in price

ED = 20/40

= ½

ED = 0.5 (b) (i) Demand is inelastic (ii) 0.5 is less than one and therefore coefficient price elasticity of demand is inelastic

2. (i) Q = 60 – 1/3P

Q = 60 – 1/3x 201

Subt. 30 for p

Q = 60 - 1/3 x 30/1

Q = 60 - 10

= 50

(ii) When p = 210

(a) When p = 30 then Then

Q = 60 - 70

= -10

(iii) When p = 0

Q = 60 – 1/3 x 0

Q = 60 – 0

= 60

3. (i) Under 20 $(\frac{20.90}{55} \times \frac{390}{1})^o = (\frac{7524}{55})^o$

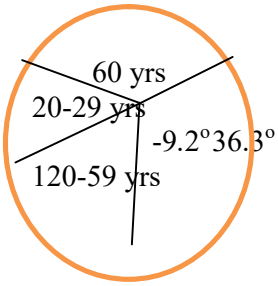
= 136.8°

(ii) 20 – 29 $(\frac{13.75}{55} \times \frac{360}{1})^o = (\frac{4950}{55})^o$ = 90°

(iii) 30 – 50 $(\frac{12.10}{55} \times \frac{360}{1})^o = (\frac{4356}{55})^o$ = 79.2°

(iv) 60 and above = $(\frac{8.25}{55} \times \frac{360}{1})^o = (\frac{2970}{55})^o$ = 54°

The pie chart



Marks (X)	Frequency (F)	(Fx)
12	1	12
18	1	18
20	3	60
28	1	28
34	2	68
38	1	38
39	1	39
43	1	43
46	1	46
48	1	48
52	1	52
53	1	53
64	2	128
66	1	66
69	1	69
70	1	70
	N = 20	Fx = 838

5. (a) (i) A mortgage bank is a financial institution that specializes in granting loans to individuals and corporate bodies for building purposes. Such loans are repaid in installments and can be spread over several years. While a merchant bank is a financial institution set up to provide long term loans to group of individuals and governments for developmental projects. They provide financial assistance in high risk, low profit and long gestation period investments which are unattractive to commercial banks.

SCORING GUIDE FOR SOFT SKILLS APPLICATION TEST

QUESTION 1.

Tolu - 15
Tope - 14
Taiwo - 14
Kehinde - 14
Kemi - 13
Tunde - 13

Measures of dispersion are

- Range
- Mean
- Median

Set of Nos
= 13,13,14,14,14,15
Smallest No = 13
Largest No = 15
Range = L-5
= 15-13
= 2.

$$\text{Means} = \frac{13+13+14+14+14+15}{6} = fx$$

$$= \frac{83}{6}$$

$$= 13.83$$

Mean devialinz /x-x1/N
/13-13.83/+13-13.83/+/1414-13-13.83/+/14-/13.83/+/4-13.83+/15-13.83/
= 0.83 + 0.83 +0.17 + 0.17+0.17+1.17
= 3.34

$$S.D = \sum \frac{(x-x)^2}{N}$$

$$(x-x)^2 = (0.83)^2 + (0.83)^2 + (0.17)^2 + (0.17)^2 + (0.17)^2 + (1.17)^2$$

= 0.69 + 0.69 + 0.03 + 0.0 3 + 0.03 + 0.0 3 + 0.03 + 1.37

$$= \frac{\sum 2.84}{6}$$

$$= \frac{2.84}{6}$$

$= 0.47$

SD
Variance =
$S^2 = \frac{\sum (x-x)^2}{N}$
= 0.47

QUESTION 2

Tunde has only ₦15,000
Needs
To pay WAEC Fees
To buy PS 2 Each cost ₦15,000
To buy Android phone

1. He must make a choice of either
a. Paying WAEC Fees
b. Buy PS 2
c. Android phone
2. If (a) chooses to pay his WAEC fees the opportunity cost/Alternative forgone are
   (a) PS 2 and (b) Android phone
   (b) chooses to buy PS 2, the opportunity cost/Alternative forgone are
   (a) WAEC fees
   (b) Android phone
   (c) Chooses to Android phone

Opportunity cost/Alternative forgone are
   (a) WAEC fees
   (b) PS 2
3. For (a) His scale of preference will be
   WAEC
   PS 2
   Android phone
(b) PS 2
   WAEC fees
   Android
(c) Android
   PS 2
   WAEC fees

QUESTION 5

Qs = 25+ 0.25p
at 10
Qs = 25 + (0.25x10)
= 25 + (
= 25 + 2.5
= 27.5

at₦24
Qs = 25 + (0.25 x 24)
= 25 + (6)
= 31

at₦40
Qs = 25 + (0.25 x 40)
= 25 + 10
= 35

at 60
Qs = 25 + (0.25 x 60
= 25 x 15
= 40

at 80
Qs = 25 + (0.25 x 80)
= 25 + 20
= 45 litres

At Equilibrium what will be the quantity demanded and supplied.