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**Pedagogical Assessment of Research Methodology amongst  
MBA Students in the University of Sierra Leone**

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## **Pedagogical Assessment of Research Methodology amongst MBA Students in the University of Sierra Leone**

### **Abstract**

The teaching of courses related to research has become a significant part of the requirements for the award of degrees for students at both undergraduate and postgraduate levels. There are however some technical complexities with the materials used for some of these courses which have resulted in students' having low interest in the subject area and therefore, low transfer of knowledge from lecturers to students. This paper examines the factors which influence students' understanding of research methodology and the effect quality teaching has on student's performance in research methods courses. The data for the study were collected from 113 MBA Year 1 and Year 2 students of the Institute of Public Administration and Management (IPAM) - University of Sierra Leone (USL); out of 118 that registered for the course in 2010/2011 Academic Year. Other statistical tools used for the study are the Analysis of Variance (ANOVA) and the Pearson Correlation. The study revealed that the Cooperative learning method adopted by students assists them in better understanding Research Methods Courses. Also, quality of teaching has significant influence on students' performance in research methods. The paper concludes that it is important to develop early in students - critical thinking, necessary research skills and sound pedagogy that would result in production of quality dissertation.

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**Key Words:** Research Methodology, Collaborative learning, Negative attitude, Curriculum and Pedagogy.

### **Introduction**

Research Methodology has become one of the important courses for students at both undergraduate and postgraduate levels, before satisfying the requirements for their graduation in the University or College. This has made dissertation research also become a significant part of the degree following successful completion of course work by the students (Steenkamp and McCord, 2006). According to Ball and Pelco (2006), Research methods courses are challenging classes to teach because the technical complexity of the course material is quite high while student interest in this

material can unfortunately be quite low. This development consequently, results to low transferability of the Research Methodology knowledge from teachers to the students. The other reason for this low interest in research methods may be due to the need for application of statistical knowledge when carrying out data analysis. Hence, there is general perception of negative attitudes by students toward statistics because of its mathematical nature which requires abstract thinking. The students thus, question the function of statistics in a social science curriculum and do not see the necessity for statistics as a tool for data analysis (Barab, Squire and Dueber, 2000; van Buuren, 2006).

There are many scholars that have identified that poor performance in methodology courses lead to anxiety; which may cement negative attitudes towards the field of methodology. This has made methodology courses to be seen as “problem courses” at several universities and were often a source of “student annoyance” (Schober, Wagner, Reimann, Atria and Spiel, 2006; Schulze, 2008). However, Snee (1993) argued that the “content side” of statistics education should move away from the mathematical and probabilistic approach and place greater emphasis on “data collection, understanding and modeling variation, graphical display of data, design of experiments, surveys, problem solving, and process improvement”. He further said that the collection and analysis of data are at the heart of statistical thinking, because data collection promotes learning by experience and connects the learning process to reality. Snee and Moore (1999) emphasized what they called “statistical thinking”. In contrast to this view expressed by both scholars van Buuren (2006) argued that, statistical thinking encroaches upon the domain of subjects like research methods and suggested that these subjects should be merged within an empirical research based competency. van Buuren further argued that thinking about data, production of data, investigations, modeling, analysis and interpretation should not be taught separately in statistics service courses but be treated coherently with research methods.

Basically, the goal of research methods courses is to teach students how to present research findings in both oral and written form using the scientific style and format dictated by each professional discipline (Ball and Pelco, 2006). It is therefore, important for a research to have a logical flow of presentation, sound language use and editorial finish of technical articles and dissertations (Teenkamp and McCord, 2006; Davis et al. 1997; Dunleavy, 2003; Anson et al. 2003).

The objectives of this paper therefore, are to examine the factors which influence students understanding of research methodology and the effect quality teaching has on student’s performance in research methods courses.

## **Materials and Methods**

Learning is described as a permanent change in behavior or as knowledge acquired by study (Galbraith and Fouch, 2007). There abound many theories put forward by scholars about learning; a consideration of some of these theories are discussed below:

**Holistic learning theory** – the basic premise of this theory is that individual personality consists of many elements ..... specifically ..... the intellect, emotions, the body impulse intuition and imagination, which require activation if learning is to be effective (Laird, 1985; OCSLD, 2002).

**Sensory stimulation theory** – the theory is based on the premise that effective learning only takes place when the senses are stimulated. Empirical research indicated that vast majority of knowledge held by adults (75%) is learned through seeing; followed by hearing (13%) and other senses such as touch, smell and taste (12%). The theory says if multi senses are stimulated, greater learning takes place (OCSLD, 2002; Motah, 2007; Laird, 1985).

**Facilitation theory** – this assumes that learning will occur by the educator acting as a facilitator i.e. by creating an atmosphere in which learners feel comfortable to consider new ideas and are not threatened by external factors (Laird, 1985).

**Reinforcement theory** – this theory was developed by behaviorist school; it argued that behavior is a function of its consequences. The learner repeat the desired behaviour if positive reinforcement follows the behaviour. Positive reinforcement can be in the verbal form such as “that is great” or “you are okay”; it may be in form of tangible rewards such as the award of certificate after completing a course or promotion in the place of work. Negative Reinforcement refers to a situation when a negative condition is stopped as a consequence of the behaviour. Punishment weakens a behaviour because a negative condition is introduced and makes individuals not to repeat behaviour (OCSLD, 2002). Punishment tends to create a set of conditions which are designed to eliminate behaviour. This aspect of behaviour is

not considered relevant to education (Burns, 1995; Laird, 1985).

**Action learning** – This approach links the world of learning with the world of action through a reflective process within a small cooperative learning groups known as “action learning sets” (Mc Gill and Beaty, 1995). Reg Revans (Father of Action learning) said there can be no learning without action and no (sober and deliberate) action without learning. Revans defined learning with the following equation:  $L = P + Q$  (where L is Learning; P is Programmed Knowledge / traditional instruction and Q is the Questioning Insight) (OCSLD, 2002).

**Cognitive Gestalt approaches** – this theory put emphasis on experience, meaning, problem solving and the development of insights. It assumed that individuals have different needs and concerns at different times, and that they have subjective interpretations in different contexts (Burns, 1995).

**Experiential learning** – Kolb (1983) described four distinct learning styles embedded in a four stage learning and training cycle. The model assumed that learning is through Concrete Experience (CE) or feelings; Observation and reflection (RO) or watching, analyzing; Abstract Conceptualisation (AC) or critical thinking and Active Experimentation (AE) or doing (Mc Gill and Beaty, 1995).

**Adult learning** – this theory was pioneered by Malcolm Knowles. Learning is done through one’s lifetime and most research indicated that ability to learn increases from age 20 to 70. Learning can be formal (classroom) or informal and usually motivated by an individual’s transitions and experiences (Galbraith and Fouch, 2007). Knowles (1978, 1990) argued that adulthood arrived when people behave in adult ways and believe themselves to be adult. Adult learning enable adult learners bring a great deal of experience to the learning environment which educators can use as a resource. Andragogy and Pedagogy refer to the study of teaching. Andra means Man/Adult while Peda means Child (Galbraith and Fouch, 2007; OCSLD, 2002). Therefore, Andragogy is defined as Adult learning while Pedagogy can be defined as Child learning. However, Burns

(1995) expressed the notion that the definitions of the adult are not clear and the same is true of adult education. He therefore, gave the “Petro tank” view of school education: “fill the tank full at the garage before the freeway, then away we go on life’s journey”. He argued that problems can arise when people have not had their tank filled completely at school and suggested that “there should be service stations along the length of the highway of life” (OCSLD, 2002).

**Teaching methods** – These are the principles and methods normally used to pass instructions and idea from the teacher/instructor across to the students in the classroom. Brief discussions of the most common types of teaching methods are presented below:

**Lecturing** – This is done by giving spoken explanations or speech about the subject and often accompanied by visual aids.

**Teaching** – This is a process by which the educator gives instructions through demonstrations, examples and/or experiments. It is similar to written story telling. It helps to raise student interest and reinforce memory retention because it provides connections between fact and real world applications.

**Collaborating** – allows students to actively participate in the learning process by talking with each other and listening to other points of view. Group projects and discussions are examples of this teaching method.

**Learning by teaching** – In this method, students assume the role of teacher and teach their peers. These students have to understand a topic very well enough before they teach their peers. This is also known as Peer Teaching; and is probably the oldest form of collaborative learning in American Education. It has many names and structures but the three most successful and widely adapted models are: Supplemental instruction; Writing fellows and Mathematics workshops. It gives students self confidence and better communication skills (Smith & MacGregor, 1992; Wikipedia, 2009).

**Innovative Teaching and Learning Methods**

- this paper considers four of these methods and they are:

**Problem Based Learning (PBL):** this is defined as learning that results from the process of working towards the understanding of a resolution of a problem. The problem is encountered first in the learning process (Barrows et al., 1980). It is the part of shift from the teaching paradigm to the learning paradigm. The focus is on what students are learning rather than what the teacher is teaching. Problem Based Learning is not a mere teaching and learning technique but a total education strategy (Barr and Tagg, 1995; Barrett et al., 2005). It builds on the active learning pedagogy and has many commonalities with the experiential - learning developments seen in professional and career training programs. The PBL approach was developed for professional courses but can be adapted to small theoretical and even large introductory courses. Its main goal is to encourage self directed learning and develop a better understanding in the students; of the group process and skills necessary for successful working collaborations (Duch, Groh & Allen, 2001; Ball and Pelco, 2006).

**Cooperative Learning:** this is defined as small groups of learners working together as a team to solve a problem, complete a task, or accomplish a common goal. This is based on social interdependence theories of Kurt Lewin and Morton Deutsch. It is a form of peer learning in which students work together to maximize their own and each other's learning. The model requires student cooperation and interdependence in its task, goal, and reward structures. The lesson are created in a such a way that students must cooperate in order to achieve their learning objectives. Cooperative learning and Active learning are often used interchangeably. Cooperative learning is a form of Active learning but Active learning is not necessarily Cooperative. Cooperative learning derive engagement and interest from the way students' individual goals are linked to each other, rather than rely on individual curiosity, work ethic, or the provocative nature of the curriculum, activity or lesson plan. The leading developers of Cooperative learning are Roger

and David Johnson, Robert Slavin, Elizabeth Cohen and Speneer Kagan (Deutsch, 1949; Lewin, 1935; Artz and Newman, 1990; Johnson, Johnson & Holubec, 1998; Roseth, Garfield and Ben – Zvi, 2008; Metzke & Berghoff, 1999). The several approaches to Cooperative Learning include Circles of Learning; Student Teams Achievement Divisions (STAD); Jigsaw; Group Investigation; and the Structural Approach (Johnson et al., 1984; Arends, 1997). Cooperative learning experiences have been proved to promote higher achievement and greater retention than individualistic learning experiences for all students (Stevens and Slavin, 1995).

**Active Learning** – It is defined as the use of one or more interactive approaches to education and training for the purpose of engaging students in their work to acquire and understand knowledge (Kendall & Harrison, 2007). This is usually done through role play, inquiry based dialogue, paired work, problem solving exercises and case study exercises.

**Collaborative Learning** – is an umbrella term for variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Collaborative learning represents a significant shift away from the typical teacher-centered or lecture-centered milieu in college classrooms. Collaborative learning activities vary widely, but most center on students' exploration of the course material, not simply the teacher's presentation or explication of it (Smith & Mac Gregor, 1992). There have been suggestions for the use of Cooperative faculty teams at the department or college level because it can be a powerful way to bring about the needed changes in teaching and curriculum. Collaborative teaching group is described as an environment where teachers share ideas and experiences, support each other, and work together towards a common goal of quality teaching. This method produces better instructional materials and teaching techniques from the teachers in the group. Teachers who use collaborative learning approaches tend to think of themselves less as expert transmitters of knowledge to students but more as expert designers of intellectual experiences for

students (Smith and Mac Gregor, 1992; Roseth, Garfield and Ben – Zvi, 2008).

A brief discussion of the theories above, has become necessary, to enable us indicate its relevance and application to the educational programs for learners, most especially in the design and development of courses in our institutions.

### **Methodology**

The data for the study were collected from 113 MBA Year 1 and Year 2 students of the Institute of Public Administration and Management (IPAM) - University of Sierra Leone (USL); out of 118 that registered for the course in 2010/2011 Academic Year. The five students that are not part of the survey comprises four who voluntarily withdrew from the programme and one who became deceased during the course of the programme. The Questionnaire was of variant types consisting of Open-ended, Closed-ended and Likert type. The open-ended questions were designed to elicit different opinion about the subject matter from the respondents under survey; while the close-ended questions provide for objective evaluation of respondents' view. The Likert type was in form of Yes or No dichotomous questions; the four Point Irrelevant to Very Relevant response (1 = Irrelevant, 4 = Very Relevant) and the five type Strongly Disagreed to Strongly Agreed (Strongly disagreed = 1, Strongly Agreed = 5). There are total of 35 questions in the questionnaire. The students were divided in to 12 Random groups through student count off. This was done by asking them to count off from 1 to 10, repeating this 12 times. This make all the "1's" get together in a group, the "2's" in a second group and so on till we have the 12<sup>th</sup> group. This resulted to 12 members in 3 groups and eleven members in 7 groups; giving a total of 113 students. Reason for the use of Random Groups is that it is recommended for one-time projects; and also this method made it very easy to assemble respondents. The method created heterogeneous groups as it rearranged students who started the class sitting together (Roseth, Garfield & Ben – Zvi, 2008). The students were given the questionnaire to study together and fill. The questionnaire was later collected for analysis.

The statistical tools used for the study are Analysis of Variance (ANOVA) and Pearson Correlation.

### **Discussions and Results**

The survey revealed that there are 66% who are Male and 34% are Female (refer to Figure 1 below).

The age range for the respondents falls between 25 – 50 years old; with only 12% being over 45 years (refer to Figure 2 below). This indicates that the crops of the MBA students are young and still fresh from the school.

There is tendency for the students to see the MBA programme as an opportunity to acquire more knowledge that will be of benefit to them at their places of work. The educational background of the students indicated that majority (98%) had first degree with only 2% having Postgraduate and Professional qualifications (refer to Figure 3 below). This means that few of the students have Master's degree or Professional Certificate in Accounting or Marketing as additional qualification.

The majority of the students (99%) said they have earlier done research related courses while very few (1%) because of their first degree background in Law and Liberal Arts said they had not done research related courses at all (refer to Figure 4 below). The entire students (100%) did Statistics and Research Methods in Year 1; 90% of these students agreed that these courses were taught in appropriate year while the remaining 10% were of the view that the courses should have been done in Year 2. They argued that this would have helped a lot in writing their dissertation.

Many of the respondents (95.1%) believed that the research methods courses are relevant to their programme (refer to Figure 5 below).

There are 67% of the respondents who felt the contact hours for the courses are adequate while 33% of the respondents disagreed and suggested that the contact hours should be increased to 2 contact sessions (4 hours) per week (refer to Figure 6 below).

Most of the students reported the following as benefits derived from offering Research Methods as a course: It assisted us in writing our dissertation (54%); It give more knowledge about statistical techniques used in conducting research (17%); It is useful in solving practical related problems (10%); It helps in management decision making (9%); It make students to be involved in critical thinking (6%) and It help in other courses like Marketing and Strategic Management (4%) (refer to Figure 7 below).

The following are some of the challenges reportedly being faced by the students about the courses: We don't understand the statistical aspect of Research Methodology (72%); It is too abstract (18%); the courses are too difficult to understand (8%) and It is boring and uninteresting (2%). The students are able to address these challenges by: having group discussion after class (74 %); consulting research textbooks (20%) and adopting peer teaching for the courses (6%) (refer to Figure 8 below).

Traditional teaching was the most popular method (70%) supported by the respondents, followed by Collaborative teaching method (21%) and Peer teaching (9%) (refer to Figure 9 below).

This indicated that despite the benefit offered by innovative teaching methods such as Collaborative, Active, Problem Based and Cooperative Learning; students still preferred the Traditional teaching method which they are accustomed to. Many of the students under surveyed preferred Cooperative learning (40%)

to other types of Learning. This method is followed by Individualistic learning (22%); Collaboration Learning (20%); Active Learning (15%) and Problem Based Learning (3%) (refer to Figure 10 below).

**Test of Hypotheses**

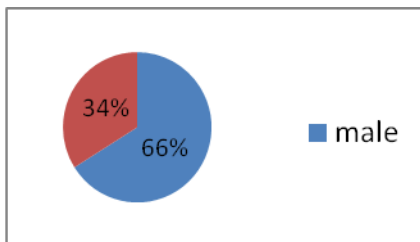
This paper considered two hypotheses; which are stated as follows:

- H<sub>1</sub>: There are certain factors which have significant influence on student's performance in Research Methods Courses.
- H<sub>2</sub>: Quality of Teaching has no significant influence on student's performance in Research Methods

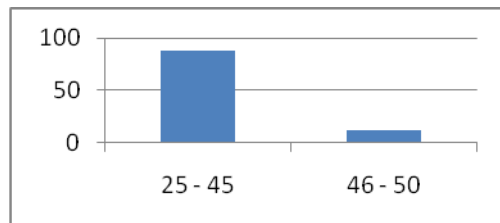
**Hypothesis 1 (H<sub>1</sub>) with Bivariate – Correlation Analysis**

There are six factors considered in the study determining Student Understanding (SU) of Research Methods Courses. These factors are: Learning Environment (LE); Resource Materials/ Textbooks (RM); Learning Methods (LM); Student's Perception of Research Methods Courses (SP); Teaching Methods (TM) and Methods of Assessment of Research Methods Courses (MA).

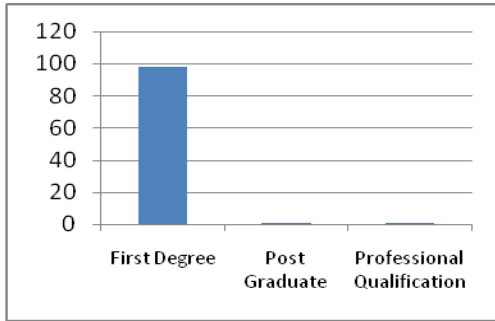
These variables are adopted from past research works done in the subject area. The result of our analysis is presented in Table 1 below.



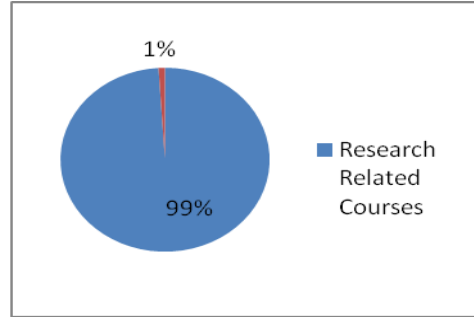
**Figure 1: Gender Distribution**  
*Source: Survey Data*



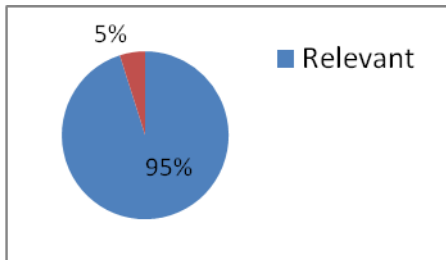
**Figure 2: Age Range Distribution**  
*Source: Field Data*



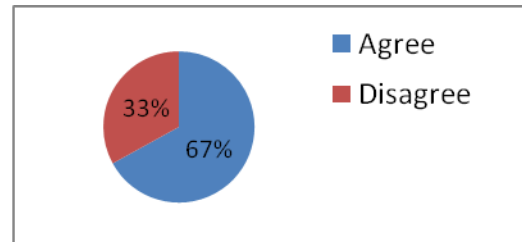
**Figure 3: Qualification Background**  
Source: Survey Data



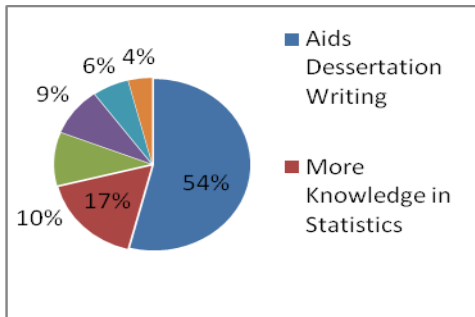
**Figure 4: Qualification Background**



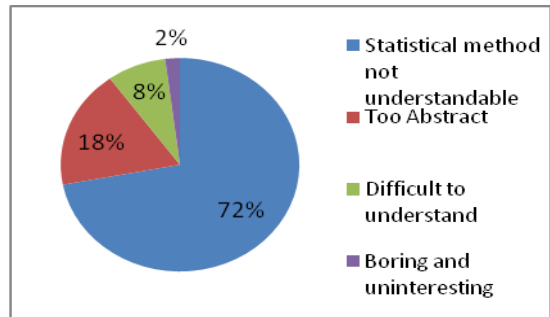
**Figure 5: Research Methods Module Relevance**  
Source: Survey Data



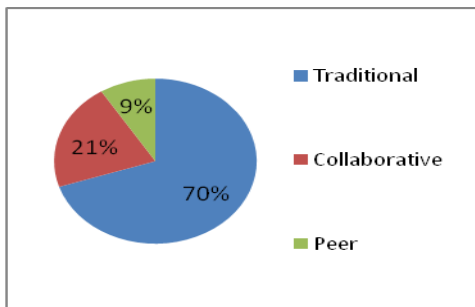
**Figure 6: Adequacy of Contact Hours**  
Source: Survey Data



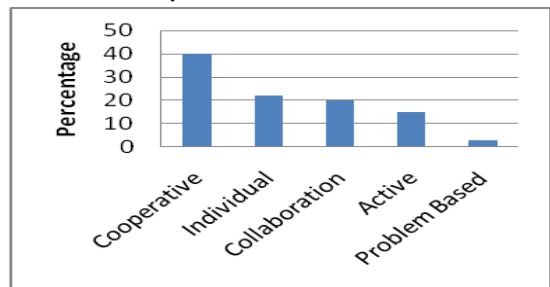
**Figure 7: Benefits of Research Methods Modules**  
Source: Survey Data



**Figure 8: Challenges**  
Source: Survey Data



**Figure 9: Teaching Method Preference**  
Source: Survey Data



**Figure 10: Learning Method Preference**  
Source: Survey Data



**Table -1** Correlation for Factors influencing Student Understanding of Research Methods Courses

	SU	LE	RM	TM	LM	SP	MA
SU	1						
LE	-0.026	1					
RM	0.312**	-.0047	1				
TM	0.216*	0.041	-0.147	1			
LM	0.506**	0.221*	0.119	0.519**	1		
SP	-0.322**	0.415**	0.141	-0.239*	-0.331**	1	
MA	-0.162	-0.170	-0.206*	0.206*	1	0.198*	

*Source: Authors' Field Work July, 2011*

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

\* Correlation is significant at the 0.05 level (2-tailed).

Table 1 above indicates that a moderate Positive Correlation of 0.506 exists between Student Understanding and Learning Methods; followed by Correlation Coefficient of 0.312 for Student Understanding and Resource Materials and 0.216 for Student Understanding and Teaching Methods. This study therefore, revealed that the Learning Method adopted by the students assisted them in understanding Research Methods courses. In this study the Learning method is Cooperative Learning. This was followed by the Resource Materials and the Teaching Method used. The study also revealed that there was significant Negative Correlation between Student's Perception (-0.322) and Student's Understanding of Research Methods. This indicates that when student's perception is not favourable that will result to poor performance and vice versa. This result confirmed the earlier position taken by Schulze (2009) who stated that Research Methods Courses are identified as "Problem Courses". This negative perception greatly contributed to low transferability of Research Methods knowledge to students. Learning environment and Student understanding of Research Methods Courses had a negative coefficient of -0.026 while that of Method of Assessment and Student understanding of Research Methods Courses is -0.162. These results indicate that these two factors are having no significant influence on Student understanding of Research Methods Courses. We therefore, conclude that Learning Methods; Resource Materials and Teaching Methods are significant factors influencing Students' understanding of

Research Methods Courses; hence we accept the Null hypothesis.

Hypothesis 2 (H<sub>2</sub>) with ANOVA techniques

The study examines the effect of quality teaching on students' performance in Research Methods. The Analysis of Variance as shown in Table 2 indicated that; the Quality of Teaching has significant influence on Students' Performance at 99% confidence level.

The Post Hoc Tukey's Test, shown in Table 3; also indicated that a significant difference exist between those who agreed and those that disagreed with the statement that Quality Teaching has significant influence on Students' Performance.

We therefore, reject the Null hypothesis and accept Alternative hypothesis that Quality of Teaching has significant effect on Students' Performance in Research Methods Courses.

**Conclusion and Recommendations**

The beauty of learning is that it is a lifetime process. There is no age limit to it; learners therefore should avail themselves the opportunity to update and develop an excellent learning skill. This paper has critically considered different approaches to Learning and Teaching; the relevance of these approaches to the study of Research Methods Courses and also identified ways of making Learning of Research Methods Courses become

more feasible and effective.

The paper therefore, suggests the following recommendations:

- ✓ Efforts should be made to encourage students adopt innovative learning methods such as Cooperative Learning. It is believed that some of these innovative learning methods will bring about improvement and development in students' research skill. It may also serve as a vehicle for improving the overall social and academic environment for a school (Skiba and Peterson, 2002);
- ✓ There should be Collaborative teaching for Research Methods Courses in higher Colleges and Universities; this it is hoped will produce better instructional materials and teaching techniques for the learners;
- ✓ The phobia for the statistical aspect of Research Methods should be demystified through encouragement and counseling of students. This can make the students develop more interest in the course and

result to their better performance;

- ✓ Students should be engaged in practical field research that will involve data collection and analysis of field data in order to improve their research skills; and
- ✓ The teaching of statistical software packages should be made mandatory in order to aid students in data analysis.

This paper concludes that it is imperative to develop early in students – critical thinking; necessary research skills and pedagogy that would result in production of quality dissertation.

**Table-2** ANOVA for Effect of Quality teaching on Students' Performance  
I did very well in my Research Methods Courses

	Sum of Squares	df	Mean Square	F	Sig.
<b>Between Groups</b>	45.173	2	22.587	32.103	.000
<b>Within Groups</b>	77.393	110	.704		
<b>Total</b>	122.566	112			

*Source: Computer Printout, 2011*

**Table 3: Post Hoc Tukey's Test for Effect of Quality Teaching on Students' Performance**  
I did very well in my Research Methods Courses

The Quality of Teaching for Research Methods Courses is Standard		N	Subset for alpha = .05		
		1	2	3	1
<b>Tukey HSD (a,b)</b>	<b>Strongly Agreed</b>	34	3.2353		
	<b>Disagreed</b>	20		3.7500	
	<b>Agreed</b>	59			
	<b>Sig.</b>				4.6441
				1.000	1.000

Means for groups in homogeneous subsets are displayed.

- a Uses Harmonic Mean Sample Size = 31.133.  
b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed

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