

The Correlation of Teacher Effectiveness Variables and Students' Academic Achievement in Economics

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ABSTRACT The quality of teachers is very significant to national development, as they have the obligation of impacting lives for better tomorrow. Therefore, this study examines the correlation that exists between the teachers' effectiveness variables and students' academic achievement in economics. An ex-post facto type of survey research was adopted for the study. Structured questionnaires, whose reliability coefficient values are 0.88 and 0.73 respectively, were used. The findings revealed that instructional activities were positively significant in relation to students' academic achievement in Economics ($r = .246$; $p < 0.05$). Also, personality traits and attitudes of the teachers were positively related and significant ($r = .094$; $p < .05$). Co-curricular activities were also related positively and significant as well ($r = .073$; $p < .05$). This indicates that students' academic achievement can be enhanced if co-curricular activities are improved in schools. The study concludes that the three variables that are independent contribute together to students' academic achievement in Economics and recommended that school heads should encourage their teachers to develop themselves professionally on these variables.

INTRODUCTION

Effective teaching begins with the teachers' willingness to teach as well as the students' readiness to learn. The students must be very active and engage with all resources provided for meaningful discussion and dissemination of subject matter by the teacher. Students must be equipped with the fundamental knowledge that can make their lives relevant to the society that they belong to. The economic problems are better appreciated by students who have the skills and positive attitude. These will enable them to make good decisions due to very scarce resources. Teachers and researchers have argued over the variables that can enhance students' academic achievement in not only Economics but all other subjects in school. A significant proportion of these variables are attributed to teachers (Adu and Galloway 2015).

Who is an effective teacher? What is effective teaching? How can one measure an effective teacher or effective teaching? Most researches had revealed that the best place to locate the answer to these questions is to ask the students who are being taught (INSET Network 2007; Adu and Oshati 2014). In line with the position above, the Learning Point Associates (2007) succinctly described teacher effectiveness as a difficulty concept that depends on many variables. That the indices to measure teacher

effectiveness vary from one organization to another. They are of the opinion that variables like organization climate, availability of resources, teachers' attitudes, head teachers relationship with teachers and students readiness to mention but a few are factors that can determine teacher effectiveness.

It might be pertinent to ask which of the above listed factors can best be described as factors that can enhance teacher effectiveness. Adu and Okeke (2014) are of the view that the teacher continuing professional development plays a pivotal role in enhancing effectiveness. School management and ministry saddled with responsibility must promote by supporting professional development for the teachers. According to Hay (2000) cited in Ojelabi (2008), teacher characteristics can be divided into four groups (see Table 1).

From Table 1, teacher characteristics have different terminology, which indicates that there is no universally acceptable definition of teacher effectiveness. Adu and Okeke (2014) are of the view that the onus lies on the school management to enhance teacher effectiveness by promoting quality through the output of the teacher. Teacher effectiveness can be measured by the success of their students, skills acquisition and continuing professional development (CPD) such as attendance of workshops and conferences, enhancing their qualification by

Table 1: Teachers effectiveness characteristic

<i>Cluster</i>	<i>Characteristics</i>	<i>Description</i>
<i>Professionalism</i>	Commitment	Commitment to doing everything possible for each student and enabling all students to be successful.
	Confidence	Belief in one's ability to be effective and to take on challenges.
	Trustworthiness Respect	Being consistent and fair, keeping one's word. Belief that all individuals matter and deserve respect.
<i>Thinking/Reasoning</i>	Analytical thinking	Ability to think logically, breaks things down, and recognizes cause and effect.
	Conceptual thinking	Ability to identify patterns and connections, even when a great deal of detail is present.
<i>Expectations</i>	Drive for improvement	Relentless energy for setting and meeting challenging targets for students and the school.
	Information seeking	Drive to find out more and get to the heart of things; intellectual curiosity.
<i>Leadership</i>	Initiative Flexibility	Drive to act now, to anticipate and pre-empt events. Ability and willingness to adapt the needs of a situation and change tactics.
	Accountability	Drive and ability to set clear expectations and parameters and hold others accountable for achievement.
	Passion for learning	Drive and ability to support students in their learning, and to help them become confident and independent learners.

Source: Field Work

furthering their education and updating their knowledge with the current method of teaching. Adu (2015) says that teacher's personal quality, attitude and characters can make or mar effectiveness and productivity. Hence, teachers should improve on these in order to enjoy their teaching profession and have job satisfaction.

In line with the above, Seldin (2009) suggested the following qualities of effective teachers:

- ♦ Treat students with respect and caring
- ♦ Provide the relevance of information to be learned
- ♦ Use active, hands-on student learning
- ♦ Vary instructional modes
- ♦ Provide frequent feedback to students on their achievement
- ♦ Offer real world, practical examples
- ♦ Draw inferences from models and use analogues
- ♦ Provide clear expectations for assignments
- ♦ Create a class environment, which is comfortable to their students
- ♦ Communicate in a way that is understandable to their students
- ♦ Present themselves in class as "real people"
- ♦ Use feedback from students and others to assess and improve their teaching
- ♦ Reflect on their own classroom achievement in order to improve

From the qualities highlighted above it shows that there is some overlap among the various

lists of teacher effectiveness qualities. For the purpose of this study, the following list of qualities was developed based on what the various tests in the literature share in common. The qualities are:

A: Instructional Activities

- ♦ Lesson Planning
- ♦ Lesson Delivery
- ♦ Communication
- ♦ Use of Questions
- ♦ Use of Praise and Reward
- ♦ Classroom Management
- ♦ Use of Instructional Materials
- ♦ Knowledge of the Subject Matter
- ♦ Evaluation Techniques
- ♦ Assignment

B: Personality Traits and Attitudes

C: Co-curricular Activities

Hence, this study is a holistic and novel approach towards bringing out the relationships among teacher effectiveness variables and schools and students variables in order to explain student academic achievement. This is due to the fact that in Nigeria, policymakers and decision-takers have always been in the practice of using the "fire brigade" approach, which does not recognize the importance of planning and research before implementation. As primary recipients of instruction, the literature is clear that the students' view of teacher effectiveness are appropriate for evaluating student-instructor

interactions, instructors' professional and ethical characteristics or behavior, student workload, what was learned in the course or curriculum, fairness of grading and instructor's ability to communicate clearly (Braskamp et al. 2004). Meanwhile, other sources are self-evaluations and self-reflections of achievement and practice, colleagues (classroom observations, review of classroom materials, and review of instructional development and advising), alumni and graduating seniors, involvement in faculty development activities, and use of research and service activities to develop and promote teacher effectiveness (Braskamp et al. 2004).

Economics as a subject being taught enables the students to live evocatively within the varying economic world. This made the National Policy on Education (2011 revised) to assimilate the theoretic foundation of the subject with their real presentations. It is as a result of this that the National Curriculum and Oyo State syllabus for Senior Secondary School (SSS) (2011) succinctly described the subject economics as having the following aims:

- ♦ To prepare students with the rudimentary principles of Economics necessary for useful living and higher education.
- ♦ To equip the students to be practical and effective in administration of scarce resources.
- ♦ To prepare students so as to have respect for the self-esteem of labor and appreciation of economic, racial and communal values of the society.
- ♦ To equip students in order to get knowledge for the practical solution to economic problems of the society, Nigeria, developing countries and the world at large (Adu and Galloway 2015:13).

From the aforementioned aims, there is a posed question, which is, why does one study economics? To answer this question, Adu (2012) gave the following reasons:

- ♦ The study of Economics enhances the students' understanding of the complex nature of economic activities around them.
- ♦ It allows students to develop knowledge of various government policies where choices have to be made such as probably to spend judiciously more money on free education and therefore provide less employment opportunities.
- ♦ The study of Economics enables students with rudimentary skills for investigating

Economic problems thereby equipping them better for positions where economic decisions have to be made.

- ♦ The study of Economics allows the government to promote growth and development. Hence, the quality of citizens' life will be promoted.
- ♦ Knowledge of Economics is useful to examine fascinating designs of socioeconomic behavior.
- ♦ The study of Economics is useful to understand and alter the inequalities in the distribution of income and opportunities.

In view of the above, every society is faced with three fundamental Economic problems of what to produce? How to produce? For whom to produce? These problems are solved through the study of Economics. Economics as a subject being offered at senior secondary level has become popular.

The popularity of Economics as a subject does not leave behind some shortfalls. The shortfalls include among others, insufficient teaching materials, poor method of teaching to mention but a few, these have effect on the teaching of Economics (Adu and Galloway 2015)

Research Objective

Despite the popularity of economics and its position among school subjects in Nigeria. The overall results from the examiner reports over the years are not encouraging. Some factors identified for the poor result in Economics include inadequate resources, poor teaching method, school climate, and teachers' attitude (Adu 2012). Therefore, this study examines the correlation between teacher effectiveness and students' academic performance.

Research Questions

The research questions are as follows:

1. Do teacher effectiveness variables have a composite effect on academic achievement of students?
2. Is the students' academic achievement relatively affected by teacher effectiveness variables?
3. Do teacher effectiveness variables predict the students' academic achievement in Economics?

Literature Review

Indices of Teacher Effectiveness

The indices to measure teacher effectiveness vary from country to country and organization to organization. All these indices have been proved to contribute in one way or the other to teacher effectiveness in school. These indices have a direct and positive influence on teacher characteristics. Grover (2007 cited in Ojelabi 2008) was of the opinion that the role of teachers in nation building cannot be over-emphasized. Hence, teacher characteristics enhance the teachers' quality. The tasks given to a teacher must be the one that must not undermine their professional qualification. Their knowledge about the subject matter and their general ability must be tapped so as to promote students' success. That is why CPD is very imperative. Teachers should undergo series of in-service training and workshops to update their knowledge. This will invariably influence their effectiveness. Hay (2000), cited in Ojelabi (2008) succinctly described these characteristics as alluded to in Table 1.

The study had been able to bring out three (3) major classes of teacher effectiveness variables such as instructional activities, personality traits and attitudes, and co-curricular activities. Meanwhile, the instructional activities aspect had ten (10) sub-variables such as lesson planning, lesson delivery, communication, use of questions, use of praise and rewards, classroom management, use of instructional materials, knowledge of the subject matter, evaluation techniques, and assignments.

METHODOLOGY

Research Design

The ex-post facto type of survey is the research design for this study. The study explored the effect teacher effectiveness variables on students' Economics achievement.

Independent and Dependent Variables Used

1. Independent Variables: There is one (1) category of independent variables. There are teacher effectiveness variables, and these include:

- a. Instructional activities
 - b. Personality traits and attitudes
 - c. Co-curricular activities
2. Dependent Variables: There is only one dependent variable in the study.
 - a. Students' achievement in Economics

Population

Students of Economics, teachers and school heads of public schools are the population for this study. They are taken from the six states from the southwestern part of Nigeria consisting of Oyo, Ogun, Osun, Ondo, Ekiti and Lagos states.

Sample and Sampling Techniques

2,160 students, 108 economics teachers and 54 head teachers (Vice Principals) were selected using stratified sampling techniques.

Data Collection

The data is collected using the following questionnaires.

Economics Teacher Effectiveness Questionnaire (ETEQ)

The instrument, which was developed by the researcher, comprised four sections. Section A sought for the background information of the respondents such as name, school, sex and rank. Sections B, C and D consisted of indices of effective economics teacher, which the respondents responded to, on a scale of 4, 3, 2 and 1 for Very Satisfactory, Satisfactory, Fairly Satisfactory and Not Satisfactory, respectively.

Section B consisted of thirty-nine (39) items on the general indices of instructional activities. Meanwhile, there were ten (10) specific areas under instructional activities such as lesson planning, lesson delivery, communication, use of questions, use of praise and reward, classroom management, use of instructional materials, knowledge of the subject matter, evaluation techniques and assignment. For instance, the teacher states the objectives of the lesson in measurable terms.

Section C consisted of fifteen (15) items on the general and specific indices of personality traits and attitudes. For example, the teacher

maintains calmness under provocation. Section D consisted of eight (8) items on the general and specific indices of co-curricular activities. For example, the teacher visits the homes of problem students to discuss their problems with their parents.

Validity and Reliability of ETEQ

The content validity of the instrument was ensured by giving it to the experts in the field of Teacher Education, Evaluation, Economics Education, and Economics teachers at the university level. The agreement indices of judges' evaluation using Cohen Kappa gave 0.88. The reliability of the instrument was ensured by trial testing it in ten (10) public secondary schools in Ibadan, Oyo State. The researcher personally administered the instrument on ten (10) vice principals, ten (10) HODs of Social Sciences, ten (10) SSII Economics teachers, ten (10) peer teachers and fifty (50) SS II Economics students. Meanwhile, the Cronbach alpha was used to estimate its reliability, which was 0.70; 0.70 and 0.73 respectively, for sections B, C and D.

Economics Achievement Test (EAT)

The instrument, which was developed by the researcher, comprised double divisions. Division A sought for the background information of the respondents such as name, school and sex. Division B consisted of thirty (30) multiple choice items focusing on three (3) general areas such as basic concepts and tools for economic analysis, human and material resources component of Economics and price determination system. Meanwhile, there were 15, 7 and 8 items focusing on the three general areas, respectively.

There were three (3) specific areas under basic Economic analysis tools and concepts such as basics of Economics, Economic Analysis tools and concepts. There were two (2) specific areas under human and material resources such as population, production and division of labor. Nonetheless, there were two (2) specific areas under the price determination system such as demand and supply, and price system

Validity and Reliability of EAT

The instrument was validated by ensuring it was handed over to specialists in the arena of Teacher Education and Economics Education as well as experienced secondary school Economics teachers. The agreement indices of the judges' evaluation using Cohen Kappa gave 0.88. The reliability of the instrument was ensured by trial testing it in ten (10) public secondary schools. The researcher, with the assistance of the SSII Economics teachers in the schools, administered the instrument on fifty (50) SSII Economics students. Meanwhile, Kuder Richardson 21 was used to estimate its reliability which gave 0.73

OBSERVATIONS AND DISCUSSION

Research Question 1

Do teacher effectiveness variables have composite effects on academic achievement of students?

From Table 2, instructional activities were positively significant in relation to students' academic achievement in Economics ($r = .246$; $p < 0.05$). This means that the more effective the instructional activities, the better the student

Table 2: Teacher effectiveness variables and academic achievement of students with Pearson Product Moment Correlations

Variables		Achievement	Instructional activities	Personality traits and attitude	Co-curricular activities
Pearson Correlation (<i>r</i>)	Achievement	1.000	.246*	.094*	.073*
	Instructional activities		1.000	-.086	-.440
	Personality traits and attitude	.246*		1.000	.088
	Co-curricular activities	.094*	-.086	.088	1.000
		.073*	-.440		

* Significant at $P < 0.05$

achievement in Economics. Also, personality traits and attitudes were positively significant in relation to the students' academic achievement in Economics ($r=.094$; $p<.05$). Again, as personality traits and attitudes of the teacher improve, student achievement also improves. With regards to co-curricular activities, it could be observed it was positively significant in relation to the students' academic achievement in Economics ($r=.073$; $p<.05$), this indicates that improved co-curricular activities would enhance student achievement in Economics. This is in line with Adu et al. (2009), which alluded to the fact that the teacher's attitude has significant impact on the life of the students academically, as teachers are role models to students.

Table 3 reveals the relationship between the three variables and Economics achievement of students are positive ($R=.335$). This implies that the three variables are relevant and could influence student achievement in Economics. Also, 11.1 percent of the total variance in student economics academic achievement was as a result of the three teacher effectiveness variables (adjusted $R^2 = .111$). This means that the remaining 88.9 percent is due to other factors and residuals. In Table 4, .335 value of R obtained is tested significantly ($F_{(3, 2156)} = 90.756$; $P<.05$). This demon-

strates that the value of R was not as a result of chance.

Table 3: Teacher effectiveness and students' academic achievement: Regression analysis

<i>R</i>	<i>R square</i>	<i>R square adjusted</i>	<i>Estimated standard error</i>
.335	.112	.111	1.8257

Research Question 2

Is the students' academic achievement in economics relatively affected by teacher effectiveness variables?

From Table 5, instructional activities had the highest impact on the students' academic achievement and significance ($b= 351$; $p<.05$). The second greatest contribution is made by co-curricular activities ($b = .218$; $P<.05$) while the lowest is the contribution made by personality traits and teacher attitude ($b=.105$; $p<.05$). Each of the three teacher effectiveness variables made significant contributions to student achievement in Economics. Instructional activities according to Adu and Oshati (2014) are the core foundation to cognitive development of a

Table 4: Analysis of variance of regression on the teacher effectiveness variables

<i>Variance source</i>	<i>Squares summation</i>	<i>Df</i>	<i>Square mean</i>	<i>F</i>	<i>Sig.</i>
Regression	907.523	3	302.508	90.756	.000*
Residual	7186.40	2156	3.333		
Total	98093.933	2159			

• Level of Significant is at $P<0.05$

Table 5: students' academic achievement in economics relatively affected by teacher effectiveness variables

<i>Variables</i>	<i>Coefficients-unstandardized</i>		<i>Coefficient-standardized Beta</i>	<i>Rank</i>	<i>T</i>	<i>Sig.</i>
	<i>B</i>	<i>Std. error</i>				
(Constant)						
1. Instructional activities	11.366	.821	.351	1 st	13.843	.000
2. Personality traits & attitude	7.114E-02	.005	.105	3 rd	15.158	.000*
3. co-curricular activity	4..319E-02	.008	.218	2 nd	5.131	.000*
	.285	.030			9.627	.000*

* Significant at $P<.05$

child. Not only do they enhance the cognitive domain in education but also lay a good foundation to Affective and psychomotor domain.

Research Question 3

Do teacher effectiveness variables have prediction over academic achievement of students?

Table 5 shows that all the teacher effectiveness variables were predictors of academic achievement of students in Economics. These are instructional activities ($B = 7.114E-02$; $t = 15.158$; $p < .05$), personality traits and teacher attitudes ($B = 4.319E-02$; $t = 5.131$; $P < .05$), and co-curricular activities ($B = .285$; $t = 9.627$; $p < .05$). Adu and Galloway (2015) ascertained that the effective use of cooperative learning strategy depends on the teacher aptness and attitude to facilitate it during the class interaction. Hence, the instructional activities without the teacher's positive attitude and sense of co-curricular activities are meaningless (Adu et al. 2014).

CONCLUSION

The study revealed that teacher effectiveness variables include the following.

- ♦ Instructional activities
- ♦ Personality traits and attitudes
- ♦ Co-curricular activities

They make a relative, composite contribution to the students' academic achievement in Economics as well as are able to predict the students' success in Economics. Therefore, teachers should endeavor to develop in themselves these variables.

RECOMMENDATIONS

Teachers should be trained on how they could become effective in their chosen career by taking seriously their instructional activities, having positive attitudes toward their profession and involved in co-curricular activities in school in order to be more effective in disseminating their professional duties.

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