Assessment of Trainee – Economics teachers' Effectiveness: Senior High School Economics Students' Perspective

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Abstract

The main objectives of the study was to determine the effectiveness of trainee – Economics teachers from the perspective of senior high school students and to ascertaining the interrelationships among the elements of determining teacher effectiveness and to establish which element accounted most for students' ratings. Based on the objectives of the study, the researchers employed the descriptive survey design. A total of 52 trainee – Economics teachers comprising 21 females and 31 males, as well as2194 Senior High School students, comprising 1332 males and 862 females were selected by means of stratified sampling. A students' rating of teacher effectiveness (SRTE) questionnaire was the instrument used for data collection. Frequencies and percentages were used to estimate the overall effectiveness of trainee - Economics teachers. Smart-PLS was employed to model a relationship among the variables and the score given to each trainee teacher. Pearson's correlation and t-statistics were estimated to test the model and the hypotheses formulated for the study respectively. It was revealed that majority of senior high school students rated trainee – Economics teachers to be effective in the teaching of Economics. It was also found out that students' perception of trainee- Economics teachers' intellectual quality, quality learning environment and significant had a strong effect on students' rating of their effectiveness. However, intellectual quality was found to be the variable of most influence. It was therefore concluded that senior high school students had confidence in trainee – Economics teachers and their perceptions of their teachers' effectiveness was influenced most by teachers' intellectual quality

Keywords: *effective teaching, students' rating, teaching practice, content knowledge, pedagogical knowledge*

1. Introduction

The issue of teacher effectiveness is a very important one as far as teacher training is concerned. The essence of training teachers for the educational enterprise is to ensure that the requite human resources, especially teachers with the relevant skills, are made available to ensure the successful implementation of the school curriculum. The concept, teacher effectiveness, has been defined as "the impact that classroom factors, such as teaching methods, teacher expectations, classroom organisations and use of classroom resources, have on students' performance" (Campbell, Kyriakides, Muijs and Robinson, 2005, p. 3). Consequently, effective teaching has thus been perceived as "how best to bring about the desired pupil learning, by some educational activity" (Kyriacou, 1995, p. 9). It can be deduced from the two definition that the concept effective teaching has been stretched to include process variables which Kyriacou (1995, p. 11) describes as "all those characteristics of teacher and pupil behaviour and of the learning task and activities which take place in the classroom and which may have some bearing on the success of the learning activity". The definitions do not only consider the product of teaching (i.e. desired learning), they also account for the process variables (i.e. educational activities) responsible for attaining the "desired learning". It is noteworthy then that whatever desired and observed change in the behaviour of the learner is achieved at the end of the teaching and learning process, is as a result of certain input and process variables employed by the teacher in the teaching and learning process. It is these input and process variables that make it possible for a teacher to be effective in the execution of his or her duties. Within the context of this study, the variables which constitute attributes of teacher effectiveness have been explained by the New South Wales Quality teaching model, which considers Intellectual Quality, Quality learning Environment, and Significance.

The world over, institutions of higher learning are constantly finding better ways of ensuring the quality of teachers they produce to take up the responsibility of translating educational programmes and policies into action by fine – tuning their programmes and training practices. In the case of the University of Cape Coast, students embark on off – campus teaching practice, which is a key requirement for certification purposes. Trainee – teachers are assessed through classroom observation by their lecturers. Little opportunity is given to senior high school students to also contribute to the information gathering process about the effectiveness of these teacher trainees who teach them under the mentorship of their regular classroom teachers for a whole term. However, educational practices keep changing and one emerging issue is the possibility of developing an eclectic approach for measuring the effectiveness of trainee – teachers on the field before they are finally certified to join the pool of teachers in the educational system. The reliance of a sole measure of assessing trainee – Economics teachers may not give a true picture of the overall effectiveness of the trainee – teacher. This stems from the notion that classroom observations may be fraught with certain weaknesses such as: unreliability, especially across content areas and grade levels, poor conceptual basis, incompetence and lack of resolve by principals who apply them, negative teacher attitudes towards them, lack of uniformity of them within school systems, inadequate training of school administrators in their use, trivialization of teaching proficiency and reinforcing a "single, narrow conception of effective teaching" (Haertel,1991, p. 5; Shannon, 1991; Shavelson, Webb & Burstein, 1986). Can the perspective of senior high school students help training institutions obtain a clearer picture of the effectiveness of trainee – teachers?

2. Objectives Of The Study

The main objective of the study was to determine the effectiveness of trainee – Economics teachers from the perspective of senior high school Economics students. The study also aimed at ascertaining the interrelationships among the elements of determining teacher effectiveness and to establish which element(s) accounted for students' rating of teacher effectiveness most.

3. Literature Review

Students' evaluation of teacher effectiveness is a measure that has been researched and justified by several researchers in education. The rationale for the use of this measure hinges on the notion that students are the major consumers of the teachers' produce in the classroom and are better placed to give a better assessment of their teachers (Follman, 1992; Ampadu, 2012). The measure is mostly employed in the universities probably because students at that level are perceived to be more mature and knowledgeable about what constitutes good teaching. In most tertiary institutions the world over, the evaluation of the effectiveness of faculty members has become an integral part of the promotion, merit and tenure process. In the University of Cape Coast for instance, students' appraisal of lecturers at the end of each semester has been included in taking lecturer promotion decisions. A study conducted by Selding (1993), which monitored the use of student evaluation among 600 colleges, revealed that the use of the measure had increased from 29 percent to 86 percent between 1973 and 1993. This finding buttresses the popularity of the use of students' rating as a measure for assessing teacher effectiveness.

However, the use of students' rating of effective teaching at the pre – university level, and especially for assessing trainee – teachers, has not been given much attention, probably because there appear to be a concern about the ability of high school children to competently rate the effectiveness of their teachers. It has been observed that student raters seem to lack knowledge of the full range of teaching requirements and responsibilities, such as curriculum, classroom management, content knowledge, and professional responsibilities (Follman, 1992, 1995; Worrell & Kuterbach, 2001). Notwithstanding this line of argument, a study conducted by Acquah (2012), which aimed at finding out how senior high school Economics students rated the effectiveness of their Economics teachers came out with the finding that students generally rated their teachers to be effective in the teaching of the subject. This suggests that literature on the use of students' evaluation is replete with arguments both for and against the use of the measure for assessing teacher effectiveness. Some studies have raised issues with regard to the validity of students' ratings as a measure of teacher effectiveness. A study conducted by Ngware and Ndirangu (2005) found student evaluation of teaching effectiveness (SETE) to be unreliable. It has therefore been recommended in a number of studies that students' evaluation should not be used as a sole measure for determining teacher effectiveness (Nware & Ndirangu, 2005; Acquah, 2012). Such a proposition is hinged on the fact that a number of arguments have been raised against the measure. Emery, Kramer and Tian (2003) argue that the use of students' evaluation of teaching is merely a personality and popularity contest that has little to do with students' learning. This connotes that measures of teacher effectiveness from the perspective of students

might not necessarily have any link with the performance teachers. The notion that students' evaluation is more of a personality contest is supported by a number of research findings. For instance, an earlier study conducted by Jones (1989), which aimed at ascertaining whether students' evaluation could be taken as a valid judgement of teacher effectiveness without having their ratings distorted by other irrelevant contextual variables, revealed that students rating of a teacher's personality and competence had a positive relationship, even though students were made to understand that personality was irrelevant to the study. Similarly, a more current study conducted by Acquah (2012) revealed that teachers who had a cordial relationship with their students received very high ratings, whereas those who were perceived to be unfriendly were rated very poorly by their students.

Another very important variable that has been found to influence students' evaluation of teachers is students' grades. The grade a student obtains in a subject may likely influence his or her disposition towards the subject, and consequently his/her perception of the effectiveness of the teacher. Teachers whose students score higher marks are likely to be rated more favourably as compared to teachers whose students perform poorly. A study conducted by Haladyna and Hess (1994) confirms this line of argument. It became evident in their study that about 38 percent of student evaluation of teachers was biased. Students who were expecting goods grades rated their teachers favourably as against students who were not expecting better grades. Other determining factors of teacher effectiveness identified by Acquah (2012) include: teacher attendance and punctuality to class; motivation of students; method of teaching employed; as well as teacher competence as perceived by students. It is clear from this finding that, even if not all, some of the determining factors of teacher effectiveness from the perspective of students are actually true indicators of teacher effectiveness.

It can be largely observed that studies which have employed students' evaluation for assessing effective teaching are mostly carried out at the tertiary level of education, especially, universities. The use of the measure for assessing effective teaching at the senior high school level appears not to have enjoyed the same level of attention. Again, it can be deduced from the literature that even though the measure is used for assessing effective teaching, it is mostly employed for assessing teachers already in practice and not for determining the effectiveness of trainee – teachers for certification purposes. This study aimed at ascertaining how students rated trainee – Economics teachers' effectiveness and special attention was given to which element in the explanation of effective teaching influences students' rating most. This became necessary because the essence of training teachers is to equip them with both knowledge of content and pedagogy, and as can be inferred from the literature, so many factors account for students' rating of teacher effectiveness. The question then is when students set out to assess their teachers, which elements in the estimation of teacher effectiveness influences their rating most. Is it teachers' content knowledge or the employment of certain pedagogical practices in the classroom? One cannot lose sight of the possibility that a teacher might not have much content knowledge, yet by virtue of the fact that the teacher employs appropriate pedagogy that arouses the interest of his/her learners might earn him/her high ratings from students. Also there is the possibility that a teacher's content knowledge might influence students to rate him/her favourably, though that teacher might not be employing best practice in teaching.

4. Conceptualization of Effective Teaching

The New South Wales Quality Teaching Model was adopted by the researchers as the model for the conceptualization of effective teaching. This quality teaching model, according to Yeigh (2008), connects student learning to the quality of pedagogy the teacher brings to the teaching/learning process by explaining that student learning outcomes are largely the product of the instruction they receive. Thus the underlying assumption of this model is that the nature and quality of pedagogy represent the pit and core of the teaching business. The Quality Teaching in New South Wales Public Schools model has identified three pedagogical dimensions as the central pillars of effective teaching. These dimensions are: Intellectual Quality (IQ), Quality Learning Environment (QLE), and Significance (SIG).

As explained by Yeigh (2008), the IQ dimension basically relates to pedagogical elements that promote deeply cognitive, challenging, reflective, and generally more considered student learning. The emphasis is on producing deep understanding of important, substantive concepts, skills and ideas. Here knowledge is perceived as something that requires active construction and requires learners to engage in higher-order thinking and to communicate substantively about what they are learning. The QLE dimension emphasizes supportive classroom structures and positive expectations as a means to more productive learning outcomes, thus promoting positive classroom relationships and more equitable student outcomes (Yeigh, 2008). Such pedagogy sets high and explicit expectations and develops positive relations between teachers and learners and among learners. The SIG dimension connects learning to ownership, and to the students' growing sense of identity, by way of elements that seek to link classroom learning to the students' own

background as well as to the larger, more diverse world outside the school. In effect, this dimension focuses on pedagogy that helps make learning meaningful and important to the learners (see figure 1).

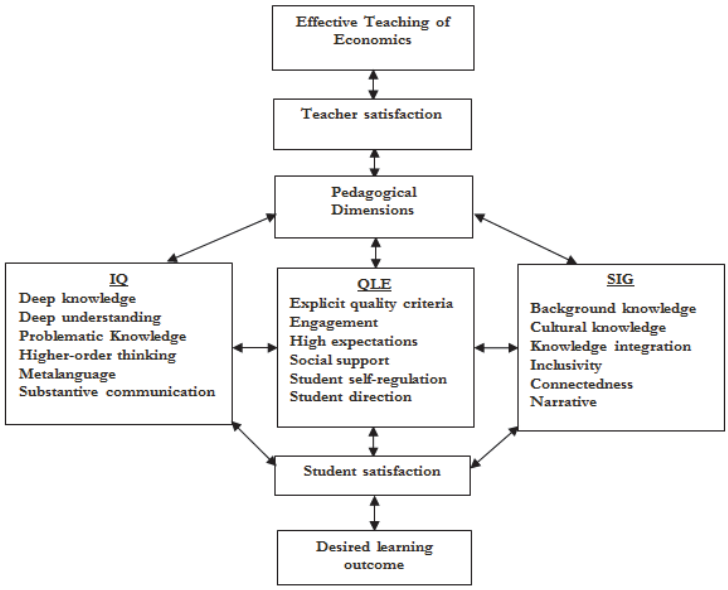

Figure 1: Quality Teaching Model for Effective Teaching of Economics

Figure 1, clearly depicts an effective teaching and learning process in Economics. The effective Economics teacher, is expected to possess adequate knowledge in the three dimensions of pedagogy (i.e. IQ, QLE and SIG), and combine all three dimensions, by demonstrating the various elements that characterize these dimensions, namely: deep knowledge, deep understanding, higher-order thinking, substantive communication, engagement, high expectation, social support, background knowledge, knowledge integration as well as connectedness to satisfy students expectations and to produce the resultant desired learning outcome. The two-way arrow between student satisfaction and desired learning outcome indicates that student satisfaction results in desired learning outcome, and vice versa.

The model also assumes a bottom-up approach. Desired learning outcomes which satisfy student expectations require the trainee - Economics teacher to employ the three pedagogical dimensions which will eventually give him/her a certain level of satisfaction of his/her own effectiveness. From the model, it becomes possible to assess effective teaching from a three – dimensional perspective. That is from the perspective of the teacher, students and observation. This is because there appear to be a certain level of connection among the three approaches. However, for the purpose of this study, the assessment was done from the perspective of only senior high school Economics students.

The two – way arrows also suggest that all the elements in the model are interrelated. Therefore, based on the interrelatedness of the elements in the model, the following hypotheses were formulated to test for the significance of the effect of all the relationships among the elements on the assessment of trainee – Economics teacher effectiveness from the perspective of students:

1. H_0: intellectual quality does not significantly influence quality learning environment in determining trainee – Economics teachers' effectiveness from the perspective of students
2. H_0: intellectual quality does not significantly influence significance in determining trainee – Economics teachers' effectiveness from the perspective of students
3. H_0: intellectual quality does not significantly influence the determination of trainee – economics teachers' effectiveness from the perspective of students
4. H_0: quality learning environment does not significantly influence the determination of trainee – Economics teachers' effectiveness from the perspective of students
5. H_0: Significance does not significantly influence quality learning environment in determining trainee – Economics teachers' effectiveness from the perspective of students

6. H_0: significance does not significantly influence the determination of trainee – Economics teachers' effectiveness from the perspective of students

A review of literature clearly suggests that knowledge of content and pedagogy constitute the basis for the explanation of teacher effectiveness. For instance a study conducted by Acquah (2012) revealed that students considered elements of both pedagogy and content knowledge in the estimation of teacher effectiveness and that male students perceived their teachers to be more effective both in content and pedagogy than female students. Earlier studies had also established that perception of pre – service teachers' content knowledge and ability to communicate forms the basis of good teaching (Powell, 1992; Hollingsworth, 1989). Other studies have revealed that pedagogical considerations influenced students rating of effective teaching more than teachers' knowledge of content. For instance a study conducted by Hamann, Baker, McAllister, and Bauer (2000) concluded that students preferred lessons with good teacher delivery, irrespective of lesson content. They also concluded that university music students weighed quality of teacher delivery more heavily than the content of lesson. This implies that from the perspective of their study, the employment of appropriate pedagogical skills influenced students rating of teacher effectiveness more than students' perception of teachers' content knowledge. This finding has been corroborated by a number of studies some of which include: Madsen (2003); Redding (2011); Macleod and Napoles (2012). In a related development, Cassidy (1990) found out that lack of subject matter expertise contributed to less intensity perception of the teacher. In that study, teacher intensity was positively related to teacher effectiveness and teacher delivery was perceived to contribute more to teacher intensity in the classroom. This also presupposes that when it comes to the rating of teacher effectiveness from the perspective of students, pedagogical factors influence students more than content knowledge.

These findings notwithstanding, one cannot lose sight of the impact teachers' knowledge of content has on students' learning. Inadequate knowledge of content is likely to whittle down the quality of information learners would glean from the teacher and this could have negative repercussions on students' achievement. Nonetheless it is clear from the review that pedagogical elements in the estimation of teacher effectiveness appear to account more for teacher effectiveness from students' perspective. It is therefore clear that there appear to be a certain level of controversy on the subject which lends itself to further enquiry. More especially, in the rating of trainee – teacher effectiveness in Economics, there appear to be little information as to whether teachers' knowledge of content or pedagogy influences students' rating of trainee – Economics teacher effectiveness more.

5. Methodology

The researchers employed the descriptive survey design for the study because the aim was to ascertain the effectiveness of trainee – Economics teachers in teaching senior high school Economics from the perspective of students. This aim made it suitable to use the descriptive survey design because as Cohen, Manion and Morrison (2007) indicated, such studies look at individuals, groups, institutions, methods and materials in order to describe, compare, contrast, classify, analyse and interpret the entities and the events that constitute their various fields of inquiry. The researchers were only interested in determining trainee – teacher effectiveness, without any manipulation of variables.

The population for the study was made up of all final year Bachelor of Education Social Sciences Economics major students for the 2013/2014 academic year, as well as senior high school Economics students in the third and second year. This population was targeted for the study because, in the case of the trainee Economics teachers, they constituted the next generation of teachers tasked with the responsibility of ensuring the effective implementation of the Economics curriculum at the senior high school level. Form two and three senior high school Economics students were also targeted because the researchers believed these students had studied enough content in Economics and were better placed to rate the effectiveness of their Economics teachers than form one students.

The stratified random sampling technique was deemed more appropriate for the selection of trainee - Economics teachers. The list of all final year Economics education students was obtained and stratified into male and female trainee teachers. A representative number of male students were randomly selected. There was a full representation of female students in the study because there were only 21 of them and the researcher decided to include them all in the study. The simple random sampling technique (lottery method) was employed for the selection of the male students to ensure that there was a fairly equal chance for each male trainee – Economics teacher to participate in the study. Out of the total number of trainee – Economics teachers, 52 comprising 21 females and 31 males were selected for the study. With the selection of Senior High School Economics students, a stratified random sampling technique was used to ensure that each student stood an equal chance of being selected and that there was a fair representation of male and female students for the study. The number of students selected depended on the size of the class. According to Theall and Franklin (2001), a minimum percentage of students depending upon the size of the class must be present to do the

ratings for the information obtained to be considered representative and reliable. Overall, 2194 Senior High School students, comprising 1332 males and 862 females were selected for the study.

The instrument used for data collection was a student rating of teacher effectiveness (SRTE) questionnaire that was adapted from two main instruments: the Student rating of Teacher Effectiveness (SRTE) instrument developed by the Penn State's University Faculty Senate and the rating form used by the Quality Assurance Unit of the University of Cape Coast for students' appraisal of lecturers and courses. The instrument was also guided by the New South Wales Quality teaching model employed for the study.

Frequencies and percentages were used to ascertain the overall effectiveness of trainee - Economics teachers in the teaching of Economics from the perspective of students.

Smart-PLS (Partial Least Square modelling) was used to model a relationship among the variables and the score given to each trainee teacher. In developing the model, various direct and indirect paths were developed to ascertain the impact of each variable on the other and also test the hypotheses generated as a result of the paths identified. Pearson's correlation and t-statistics were estimated to test the model and the hypotheses formulated for the study respectively.

6. Results

6.1 Trainee – Economics Teacher Effectivness: Students' Perspective

It can be clearly seen that out of the total 2194 senior high school Economics students who participated in the study , 1286 (58.6%) gave their Economics teachers excellent rating. Only 2 (0.1%) failed their Economics teachers in terms of their teaching effectiveness (see Table 1).

Table 1: Students' Rating of Trainee - Economics Teachers' Effectiveness

Rating score	Frequency	Percentage
80-100 Excellent	1286	58.6
75-79 Very Good	280	12.8
70-74 Good	230	10.5
65-69 Very Satisfactory	223	10.2
60-64 Satisfactory	91	4.1
55-59 Very Fair	78	3.6
50-54 Fair	4	0.2
0-49 Fail	2	0.1
Total	2194	100

This clearly suggested that the majority of the students involved in the study rated trainee – Economics teachers highly in terms of their effectiveness in teaching the subject. As a follow up, students were asked to indicate the extent to which they agreed to the statement, "you consider your teacher to be generally effective in the teaching of Economics?". Students' responses has been presented in Table 2.

Table 2: Students' General Perception of Teacher Effectiveness

	Frequency	Percentage
Strongly Agree	1010	46.0
Agree	718	32.7
Undecided	292	13.3
Disagree	114	5.2
Strongly Disagree	60	2.7
Total	2194	100

It became quite clear that majority of the students agreed. Out of the total of 2194 students, 1010 (46.0%) strongly agreed and 718 (32.7%) agreed. Only 60 (2.7%) strongly disagreed. This implies that Economics students generally perceived trainee - Economics teachers to be effective in the teaching of the subject at the senior high school level. This finding is supported by the findings of Acquah (2012), whose study on Economics students' rating of Economics teachers' effectiveness revealed that Economics students generally rated their Economics teachers to be effective in the teaching

of the subject. These findings from the two independent studies seem to imply that students are more likely to rate their teachers favourably whenever they are given the opportunity to assess them. This makes it questionable to consider students' rating as a sole measure of assessing teacher effectiveness. This is because the results obtained from students' rating might not be a true reflection of teachers' effectiveness in the classroom. A myriad of factors such as teacher, personality, teaching methods, teacher motivation of students, etc., (Acquah, 2012), have been found to influence students' rating of their teachers.

6.2 Influencing Elements on Students' Rating of Teacher Effectiveness

As made evident from the earlier analysis, students' rating of trainee – teacher effectiveness appears to be a rubber stamp. Nevertheless the researcher was interested in finding out how the various elements in the quality teaching model adapted for this study influenced students' rating of their teachers. In order to ascertain this, the relationship paths among the elements in the model had to be traced and thoroughly analysed. This was generated with smart PLS and has been presented in Figure 2.

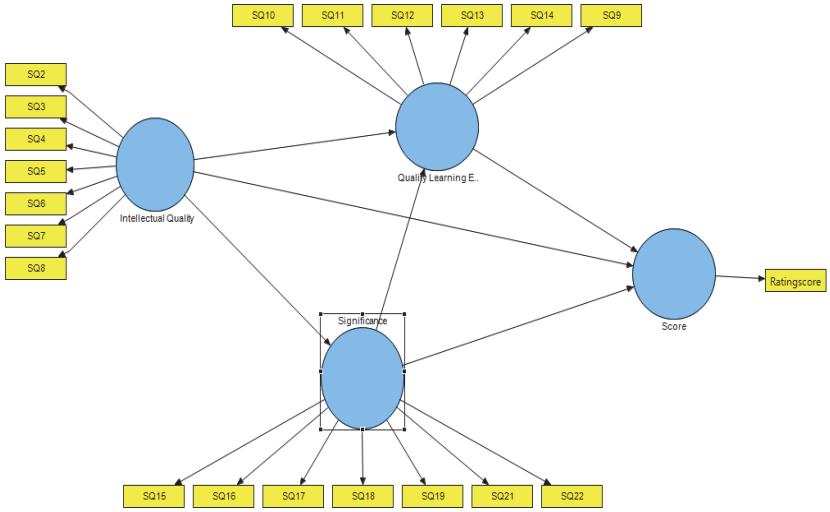

Figure 2: Trainee – Economics Teachers' Teaching Effectiveness Model

In this model, four interrelated Latent Variables (LV) were introduced. It was based on a well-established theory; the quality teaching model and it was to be applicable to the teaching learning situation in the classroom. For a trainee – Economics teacher to perform well, there had to be the interplay among Intellectual Quality, Quality Learning Environment and Significance. These three latent variables interrelate with each other during the instructional period. When all these variables are well exhibited by the trainee – Economics teacher, there is the likelihood that the students would rate him/her favourably. A set of Manifest Variables (MV) are associated with each of the LVs (see Table 3 in APPENDICES for the explanation of the Manifest and latent variables). The entire model is important for determining the main target variable, being Score as pertaining to students' rating of effective teaching.

6.2.1 Assessment of the Measurement Model

Smart-PLS presents two different models; the measurement and the structural models. To be able to ascertain the correct specification of both the latent and manifest variables, there was the need to check the loading of each of the manifest variables. For each of the LVs within the structural equation model, a measurement model (or outer model) had to be defined. These models embody the relationship between the empirically observable indicator variables and the LVs.

This is referred to as the check for unidimentionality. The summary of the loadings revealed that all the items appropriately measured the constructs they were supposed to measure. This is because, each item recorded a loading of 50% or more According to Ringle (2004), the standardised loadings should be .5 or more. (See Table 4 in APPENDICES for a summary of the loadings and path relationships.

A further test of the measurement model was conducted to ascertain the validity and reliability measures for the model estimated. This test revealed that all the Average Variance Extracted (AVE) recorded values greater than 0.5 which means that the indicators of the constructs shared a high proportion of variance in common (see Table 5).

Table 5: Convergent Validity and Reliability Measures

	AVE	Composite Reliability	R Square	Cronbachs Alpha	Communality	Redundancy
Intellectual Quality	0.5755	0.8063	0	0.72	0.3755	0
Quality Learning Env.	0.6495	0.828	0.5598	0.7502	0.4495	0.2174
Significance	0.6861	0.7571	0.4364	0.6498	0.2861	0.1171
Score	1	1	0.9496	1	1	0.5682

According to Fornell & Larcker (1981), an AVE > 0.5 gives an indication of a good convergent validity. In terms of construct reliability, the values of the Cronbachs alpha were all greater than 0.6 (Hair, et al, 2006). The impact of all the information in Table 5 is that the constructs (intellectual Quality, Quality Learning Environment and Significance) were very strong in influencing effective teaching of Economics from the perspective of students.

Finally, in order to establish the level of correlation between the LVs and determine the extent of discriminant validity of the LVs (i.e. the extent to which each latent variable was independent of the other) a correlation matrix was developed (see Table 6).

Table 6: Correlation

	Intellectual Quality	Quality Learning Environment	Significance	Score
Intellectual Quality	**0.7586**			
Quality Learning Env.	0.7203	**0.8059**		
Significance	0.6606	0.6278	**0.8283**	
Score	0.8907	0.8774	0.8077	**1**

The Pearson correlation coefficients of the model variables for the total sample showed that the variables, Intellectual Quality, Quality Learning Environment and Significance were strongly interrelated with Students rating (Score), while significance and intellectual quality were all moderately interrelated. Also, Significance and quality learning environment were moderately correlated with a correlation coefficient of .6278. When we consider Students ratings (Score) to be the dependent variable we may conclude from the model that Intellectual Quality, Quality Learning Environment and Significance are variables which are positively related to Students ratings (Score). However, the indirect paths as well as the regressions in the indirect paths contribute significantly, to Quality Learning Environment and Significance when related to Intellectual Quality.

Also, Square root Average Variance Extracted (AVE) (in bold in the correlation matrix) is greater than the correlations which means the model has passed the test of discriminant validity. Discriminant validity is the extent to which one latent variable discriminates from other latent variables (Fornell & Larcker, 1981).

The foregoing analysis suggests that, the measurement model has passed the Convergent Validity test. This is because the standardized loadings estimates were 0.5 or higher, and ideally 0.7 or higher. The AVE were 0.5 or greater, to suggest adequate convergent validity. Also, the square roots of the AVE estimates were greater than the correlation between that factor and other factors to provide evidence of discriminant validity. Also, the reliabilities were 0.7 or higher which indicated adequate convergence or internal consistency.

6.3 Hypotheses Testing

With a strong statistical support for the correctness of the measurement model, the structural model could then be estimated and the various hypotheses for the paths were tested (see Table 7).

Table 7: Hypothesis Testing

Hypotheses Paths	T Statistics	P Value	Supported?
Intellectual Quality -> Quality Learning Environ	16.6186	0.0000	reject H_0
Intellectual Quality -> Score	55.1177	0.0000	reject H_0
Intellectual Quality -> Significance	17.4152	0.0000	reject H_0
Quality Learning Environment -> Score	11.3122	0.0000	reject H_0
Significance -> Quality Learning Environment	3.6971	0.0005	reject H_0
Significance -> Score	11.0551	0.0000	reject H_0

Significant level = .5

From Table 7, it can be observed that, there were three indirect paths and three direct paths. The indirect paths refer to the path from one latent variable to the other whereas the path from one latent variable to the dependent variable is a direct path. The p-values recorded indicated that all the paths were significant, thus, the null hypotheses representing the hypotheses paths were rejected. For instance, the analysis showed that, intellectual quality affected quality learning environment, also, intellectual quality affected the significance, while significance also affected quality learning environment in students rating of trainee – Economics teacher effectiveness. It is also evident that Intellectual Quality, Quality learning environment and Significance, all significantly affected senior high school Economics students ratings of trainee – Economics teachers' effectiveness, with Intellectually quality accounting more for students' rating scores, with a higher T-value of 55.12 as against 11.31 and 11.06 for quality learning environment and Significance respectively. This finding contradict other studies which have revealed that pedagogical considerations influenced students rating of effective teaching more than teachers' knowledge of content (Hamann, Baker, McAllister, and Bauer ,2000; Madsen, 2003; Redding, 2011; Macleod and Napoles, 2012; Cassidy,1990)

7. Conclusion

It can be concluded that senior high school Economics students generally rated trainee Economics teachers to be effective in the teaching of Economics, implying that senior high school students had confidence in trainee – teachers from the University of Cape Coast to teach them Economics at that level. It can also be inferred from the model that all the three key elements (Intellectual Quality, Quality Learning Environment and Significance), significantly affected students' perception of trainee – teacher effectiveness. However, the element that influenced students' perception of teacher effectiveness most was Intellectual Quality.

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Appendix

Table 3: Operationalisation of the Variables

Latent Variable	Codes	Manifest Variables
Intellectual Quality	SQ2	Teacher clearly explains core Economics concepts to the understanding of students
	SQ3	Teacher helps students to express their understanding of core concepts in Economics when teaching
	SQ4	Teacher involves students in explaining core Economics concepts and also helps them to discover new knowledge in Economics on their own
	SQ5	Teacher encourages students to critique the information he/she gives in class. He also permits students to express their opinion
	SQ6	Teacher helps students to differentiate the meaning of concepts in Economics from everyday use, and also to use different forms such as graphs and other mathematical functions to explain concepts
	SQ7	Teacher encourages students to use various forms of communication (oral, written, iconic (diagrams and symbols) to elaborate and discuss concepts learned in Economics
	SQ8	Teacher uses teaching and learning resources that help students to understand Economics concepts
Quality Learning Environment	SQ9	Teacher makes it clear to students the criteria that would be used for assessment (whether class test, assignment or class discussion)
	SQ10	Teacher ensures that students remain on task and makes sure that they pay attention and show interest when he/she is teaching

	SQ11	Teacher constantly gives students the assurance that they are good and that they will perform to expectation in Economics.
	SQ12	Teacher creates a positive learning environment, clarifies peer support structures and promotes mutual respect within the classroom
	SQ13	Teacher encourages students to accept responsibility for their learning and for the consequences of their behaviours in learning Economics in class
	SQ14	Teacher sometimes gives students the option to choose learning activities and assessment criteria
Significance	SQ15	Teacher uses what students have learned and general things they already know to help them understand new concepts in Economics
	SQ16	Teacher uses his/her knowledge of other cultures to help remove certain wrong notions about other cultures from students' mind
	SQ17	Teacher helps students to integrate core concepts from various subject areas in order to help them understand concepts they learn in Economics
	SQ18	Teacher encourages students to respect the views of other students from different cultural backgrounds
	SQ19	Teacher publicly values different cultural and social points of view from students
	SQ20	Teacher relates Economics concepts to practical things outside the classroom and also helps students to see the usefulness of the information he/she gives in class
	SQ21	Teacher encourages students to come out with their own explanation and definition of concepts
	SQ22	Teacher is considered to be generally effective in the teaching of Economics

Table 4: Check for Unidimensionality

MVs	Intellectual Quality	Quality Learning Environment	Significance	Score
SQ2	**0.6406**	0.435	0.4887	0.5762
SQ3	**0.5277**	0.3537	0.2947	0.4237
SQ4	**0.6031**	0.4627	0.3708	0.5099
SQ5	**0.518**	0.3723	0.4034	0.479
SQ6	**0.6848**	0.4952	0.3949	0.5958
SQ7	**0.6944**	0.5068	0.4942	0.6443
SQ8	**0.5969**	0.4424	0.3562	0.5572
SQ9	0.5833	**0.7041**	0.4246	0.6277
SQ10	0.3893	**0.7885**	0.2873	0.4208
SQ11	0.5179	**0.7296**	0.4217	0.629
SQ12	0.524	**0.7077**	0.4944	0.626
SQ13	0.3503	**0.6154**	0.3875	0.5084
SQ14	0.4972	**0.7421**	0.4811	0.676
SQ15	0.523	0.4293	**0.6845**	0.6174
SQ16	0.2953	0.3466	**0.5417**	0.4588
SQ17	0.289	0.3221	**0.5259**	0.3983
SQ18	0.2166	0.1598	**0.6946**	0.2521
SQ19	0.2111	0.2129	**0.6295**	0.2932
SQ20	0.2322	0.2852	**0.5112**	0.3286
SQ21	0.3259	0.1767	**0.798**	0.3567
SQ22	0.5338	0.5484	**0.6331**	0.5685
Ratingscore	0.8907	0.8774	0.8077	**1**