

## Instructional Quality and Trainee-Teachers' Effectiveness in the Delivery of Basic Education: The Case of Ada and Accra Colleges of Education, Ghana

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### Abstract

The study investigated the effect of instructional quality on trainee teachers' effectiveness in the delivery of basic education, focusing on Accra and Ada Colleges of Education (CoE), Ghana. The study also considered the moderating role of trainee teachers' academic self-discipline on the relationship between instructional quality and trainee teachers' effectiveness in terms of professional values, attitudes, knowledge, and practices. A cross-sectional descriptive survey design was employed. The study population was all the 2,207 trainee-teachers in the two colleges. The study selected final year students of the two colleges purposively. The number of final year students in the two colleges was 713, made up of 454 males and 259 females. The census method was used to capture all of them. Trainee-teachers and mentors questionnaires, with reliability coefficients of .817 and .912 respectively, were the instruments used. Mean, standard deviation, and a hierarchical regression-based approach of Hayes (2018) moderation analysis were the statistical tools used to analyze the data. The study revealed that the instructional quality of the colleges is perceived positively. However, the professional values, attitudes, knowledge, and practices of trainee-teachers were ineffective. Also, whenever trainee-teachers demonstrate a high level of academic self-discipline, qualities of the instruction they received help them demonstrate effective command over possession of subject matter knowledge, lesson presentation skills, class management and control, and lesson note preparation. The Ministry of Education through National Accreditation Board and National Council for Tertiary Education should ensure that designers and reviewers of teacher education programs factor in more professional courses and socially oriented courses such as School and Community; Family, School, and Community collaboration; and Sociology of Teacher Education to help enhance teachers' effectiveness professionally and to develop their professional competencies in teaching from known to unknown, taking into consideration the Ghanaian cultural context.

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## Introduction

Instructional quality means an institutionally approved quality guideline to assess a teacher. The quality of instruction leads to effective education delivery. According to Antoniou (2018), the value of education is characterized by its instrumental and intrinsic goodness. Largely, the effectiveness in the delivery of basic education can be measured using the effectiveness of the teachers trained to teach at that level (Hill & Hawk, 2017). Teacher effectiveness is a measure of a process involving factors that include the designing and understanding of the needs of students (Senyamator, 2018). This means effective teachers are those who achieve the goals which they set for themselves or which have been set for them by others. As a consequence, those who attempt to improve teacher effectiveness must be cognisant of the goals imposed on teachers or the goals that teachers establish for themselves, or both. This calls for the need to ensure that teachers demonstrate academic self-discipline and effectiveness in the area of professional knowledge, values, and practices.

Teachers are a central element in the education system of every modern society. According to Wilson and Floden (2019), they are the pivot of any education system, and the effectiveness of instruction of these teachers depends mostly on the quality they possess. To ensure effectiveness in the delivery of basic education, there is the need for teachers trained to teach at the basic level to demonstrate professionalism in the work they have accepted to do. The effectiveness of trainee-teachers is a must for both qualitative and quantitative growth in education delivery, especially at the first cycle of education (Bhat, 2020). Therefore, implementing effective instructional quality programs in the various Colleges of Education (CoE) is very important if we want to produce effective teachers in Ghana.

Effective teachers are known to possess 21<sup>st</sup>-century skills that help them translate educational philosophy, aims, and objectives into knowledge and skills, and transfer them to learners in the classroom (Aina, Olanipekun & Garuba, 2015). In addition, they can help develop learners to acquire the requisite knowledge and competencies needed in fighting common human enemies in the society such as ethnocentrism, illiteracy, diseases, corruption, poverty, conflicts as well as a myriad of socio-environmental problems confronting human survival (Hill & Hawk, 2017). According to Klopfer (2014), knowing the effectiveness of teacher preservice preparation programs will help in predicting the contribution of qualified teachers to the teaching profession. All things being equal, a well-trained teacher will end up exhibiting a meaningful level of professional values, attitudes, knowledge, and practices that will in turn help them to teach effectively to produce good students (Eret, 2013).

The research work of Fuudia (2019) revealed that in the basic school settings of Tema Metropolis, Ghana, teachers are probably the single most essential factor affecting pupils' academic success. This is consistent with the comment of Aina et al. (2015) who aver that the most important factor affecting student learning is the teacher. The clear implication of these findings is that a lot can be done to improve education by improving the instructional quality of teachers than by any other single factor. This means, for teachers to be productive in their teaching roles with their students, they need to be thoroughly trained by effective preservice teacher preparation institutions in content knowledge, pedagogy knowledge, assessment techniques, improvisational skills, and extracurricular activities to help boost their instructional quality (Cleveland, 2008; Eret, 2013; Mbwesa, 2014; Senyamator, 2018; Wright, 2017). As supported by constructivism and multicultural pedagogies, Frederiksen (2017) and Senyamator (2018) both aver that a good teacher preservice preparation program should be able to equip teachers with the necessary 21<sup>st</sup>-century skills that will help enhance their instructional quality.

The assertions so far indicate that there is a significant concern regarding the instructional quality of professional teachers and the delivery of basic education in Ghana. The concerns include poor content knowledge, ineffective classroom management skills, and poor pedagogical knowledge on the part of the teachers (Antoniou, 2018; Clark, 2009; Cleveland,

2008; Eret, 2013; Fuudia, 2019; Senyamator, 2018; Thompson, 2010; Wright, 2017). In addition, teachers' poor display of improvisational skills, assessment techniques, and extracurricular activities are concerns raised by key stakeholders in Ghanaian public basic schools (Fuudia, 2019; Senyamator, 2018). Also, the inclusive nature of modern-day basic school classrooms in Ghana is making the teaching profession much more difficult for basic school teachers to handle. This has to do with difficulties in managing over-enrolled classes and pupils with special needs (Fuudia, 2019; Imoro, 2019).

Over the last decade, scholars have argued about the gap in the delivery of basic education about teachers' academic self-discipline, instructional quality, and practice (Cleveland, 2008; Senyamator, 2018). Also, CoE has succeeded immensely in fulfilling its mandate in the production of thousands of teachers (Imoro, 2019). However, an area of concern that needs to be addressed has to do with the quality of instruction in these colleges. These challenges can be blamed on the perceived ineffectiveness of instruction, lack of self-discipline among trained teachers, and limited facilities in these colleges (Imoro, 2019; Senyamator, 2018). This calls for the need to address these challenges to enhance the effectiveness of trainee-teachers to improve education delivery as a whole.

In addition, a review of the literature shows that ineffective supervision of teaching practices and poor students support services are some of the significant challenges facing teacher training institutions (Cleveland, 2008; Imoro, 2019). Similarly, trainee-teachers experience difficulties with irregular and untimely feedback of assessment results from assessors, resolution of students' problems concerning incomplete results, and untimely supply of reading lists (Fuudia, 2019). Some students also complain about the insufficient duration of time for doing their teaching practices. Mentors too complain about the huge number of students that they have to supervise every two weeks (Imoro, 2019). Furthermore, it appears there are few rigorous research works in the prior literature regarding instructional quality and trainee teachers' effectiveness in the delivery of basic education in Ghana (Reynolds, 2016; Senyamator, 2018). The field of teacher preservice preparation is ripe for an investigation of practical focus research that will look at the consequences of the preparation programme on teachers' instructional quality program delivery of basic education in general.

The indicated challenges culminate into the negative perception that stakeholders are having towards CoE graduates (Fuudia, 2019; Senyamator, 2018), a phenomenon that is affecting the delivery of basic education in Ghana. According to Imoro (2019), 31.7% of trainee-teachers have challenges with the preparation of lesson plans. This is an indication of teacher malfunction since lesson plans are the blueprints and forms 50% of quality teaching (Frederiksen, 2017). However, with appropriate interventions, in addition to trainee-teacher self-discipline, they could enhance their effectiveness in the area of professional knowledge, values, and practices. Unfortunately, it appears there has not been any scientific study in the existing literature that looks at this problem in Ghana. It is to fill this void in research that we carried out this study to investigate the instructional quality of CoE and trainee teachers' effectiveness, taking into consideration the moderating roles of academic self-discipline.

### *Purpose of the Study*

Generally, the study investigated the effect of instructional quality on trainee teachers' effectiveness in the delivery of basic education, focusing on CoE in Ghana. The study also considered the moderating role of trainee teachers' academic self-discipline on the relationship between instructional quality and trainee teachers' effectiveness.

### *Research Questions*

Based on the purpose, two research questions were outlined to guide the study.

1. What are the levels of instructional quality and trainee teachers' effectiveness in the delivery of basic education?
2. In what ways do trainee teachers' academic self-discipline play a moderating role in the link between instructional quality and trainee teachers' effectiveness in the delivery of basic education in Ghana?

### **Significance of the Study**

The rapid economic changes in the world in recent years require teacher education to keep pace with these developments to nurture and develop the future generation to meet the rapid development changes and requirements. This can be achieved when the emphasis is placed on the effectiveness of teachers at the basic level. Therefore, training teachers to teach effectively at the basic level is a must if we are to improve the delivery of basic education in Ghana. The findings will guide policymakers and implementers of teacher education to improve the instructional quality of the colleges, and trainee teachers' effectiveness to enhance the delivery of basic education. This can be done by first identifying the lacunas in the teacher preparation programs. Also, the findings would enlighten stakeholders on issues affecting quality learning and instruction in the delivery of teacher education. Again the study will serve as a source of literature to future researchers in academia and other analogous organizations who intend to embark on similar research works.

### **Delimitation**

This study was delimited to 10 facets of instructional quality, three dimensions of trainee teachers' effectiveness, and their academic self-discipline as shown in Figure 1. Regarding study institutions, the study was delimited to Accra and Ada CoE in Ghana. Concerning respondents, only final year students and mentors supervising off-campus teaching practice were considered. These students were considered because they have been prepared and ready to be released to schools as teachers.

### **Literature Review**

Instructional quality cannot be assessed without considering quality standards and variables established to guide it. As a result, Ogunleye (2013) outlined 10 quality dimensions that influenced the researchers in adapting their instructional quality dimensions for this study. A high level of trainee-teacher effectiveness depends on the appropriate use of instructional quality indicators, as presented in Figure 1. Thus, instructional quality has some effect on teacher effectiveness (Cleveland, 2008; Imoro, 2019). However, the effect becomes more significant when the trainee-teacher believes that he or she can perform well in the field of academics, and as a result develops and maintains behaviors that enable him or her to become persevering in all it takes to properly behave academically (Frederiksen, 2017). This calls for the need for trainee-teachers to develop and maintain a high level of academic self-discipline to boost their effectiveness in the teaching profession.

Generally, two major categories characterize instructional quality: teacher characteristics and classroom effectiveness (Imoro, 2019). How these categories relate to each other has not been widely researched. The literature indicates that instructional practices are influenced by the depth and breadth of the teachers' conceptual understanding of the subject matter (Antoniou, 2018; Clark, 2009; Wright, 2017). When trainee-teachers have a deeper understanding of the subject matter they are teaching, it gives them access to a broad repertoire of pedagogical strategies to use with their students. This means trainee-teachers may not be effective or efficient unless instructional quality factors are available and practiced properly and regularly. The framework of the study is presented in Figure 1.

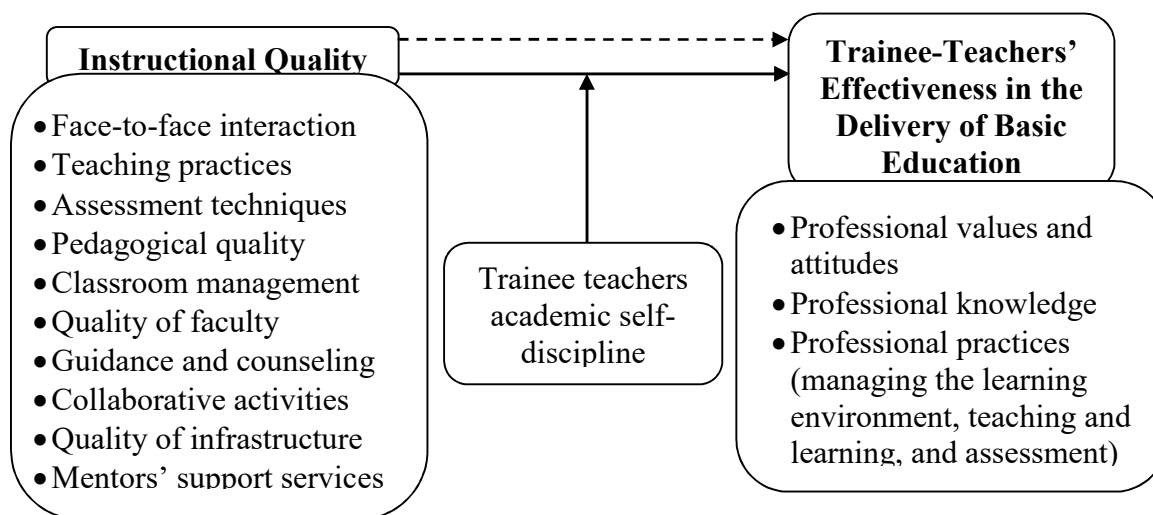


Figure 1. Instructional quality and trainee teachers effectiveness: The moderating role of trainee teachers academic self-discipline

To ensure a high level of instructional quality, on the part of CoE, there is the need for them to develop and implement a system for high-quality teaching that is predicated on curricula, assessment, and instruction. This is so because these factors facilitate all learners' attainment of a deep understanding of the disciplines and concepts (Clark, 2009). When students explore concepts over time as opposed to facts in isolation, they develop a deeper understanding and can transfer knowledge across disciplines and situations.

As presented in Figure 1, when CoE can use appropriate instructional methods that promote learner interactions during teaching practices, and also deliver suitably and quality content to learners, they will be able to meet the expected teaching standards. Also, it will boost trainee teachers' belief in their personal ability to execute the courses of action needed to positively affect their performance. Therefore, if the trainee-teachers believe that they can perform well in their training with some level of effort in their instructional practices, it will significantly boost their effectiveness in the teaching profession in the long run.

### Research Methods

The philosophical orientation of the study was guided by the ideas of positivists. Consequently, the study employed the quantitative approach. Concerning design, a cross-sectional descriptive survey design was employed to investigate the instructional quality and trainee teachers' effectiveness in the delivery of basic education in Ghana.

### Population, sample, and sampling procedure

The study population was all the 2,207 trainee-teachers in the Ada and Accra CoE as of the 2018/2019 academic year (Colleges of Education Secretariat [CES], 2020). The study selected final year students of the two colleges purposively. This was because they had stayed in the colleges for at least two years and had done their on-campus teaching practice, and currently doing their off-campus teaching practice. The effectiveness of the trainee-teachers was assessed during the off-campus teaching practice using the mentors' questionnaire. The number of final year students in the two colleges was 713, as shown in Table 1.



Table 1  
Distribution of accessible population by gender and CoE

Gender of respondents	Accra CoE		Ada CoE		Total	
	No.	%	No.	%	No.	%
Male	219	60.7	235	66.8	454	63.7
Female	142	39.3	117	33.2	259	36.3
Total	361	100	352	100	713	100
% of the study population by college	50.6%		49.4%		100%	

Source: Colleges of Education Secretariat (CES, 2020)

Due to the relatively small number of trainee-teachers in the two colleges, the census method was deemed appropriate and feasible to use. Again, the census method was necessary since trainee-teachers of the two colleges were quite different from each other. According to Cohen, Manion, and Morrison (2018), it is always appropriate to use the census method in such studies since the population is small and variable, any sample the study has drawn would not be representative of the population from which it is drawn.

### *Data collection instruments, procedure, and analysis*

Questionnaires, designed for trainee-teachers and mentors respectively, were the instruments used to collect the data. The trainee teachers questionnaire was used to collect data on instructional quality while that of mentors was used to collect data on teacher effectiveness. Trainee-teachers assessment of quality instruction dimensions developed by Mbwesa (2014) was adapted and used (Figure 1). The questionnaire designed for mentors was constructed based on the University of Cape Coast trainee-teacher efficiency assessment form for mentors. The variables of the study were measured quantitatively using a four-point discrete scale. The Cronbach's Alpha of the trainee-teachers and mentors questionnaires were .817 and .912 respectively, implying acceptability.

A period of three months was used to collect the data. After completion of a questionnaire by trainee-teacher in each college, he/she was asked to hand over the completed questionnaire to his/her assigned mentor for off-campus teaching practice. The mentors' questionnaire had the trainee-teacher effectiveness scale items which they were to use in assessing each of the trainee-teachers assigned to them during the teaching practice. At the end of data collection, the researchers were able to collect 682 combined completed questionnaires, representing a 95.7% response rate. Mean, standard deviation, hierarchical multiple regression analysis, and Hayes (2018) moderation and conditional process analysis were the statistical tools used to analyze the data to answer the research questions. These tools were used because the variables were measured numerically using a discrete scale. Also, the distribution and respondents were normal and homogeneous respectively.

### **Results and Discussion**

The first research question focused on the *levels of instructional quality and trainee teachers' effectiveness in the delivery of basic education in Ghana*. As indicated earlier, 10 dimensions of instructional quality and five facets of teacher effectiveness were used. The results are presented in Table 2. As shown in the table, instructional quality dimensions that were perceived positively by respondents were pedagogical quality (Mean = 3.555, Std. Dev. = .783), assessment techniques (Mean = 3.410, Std. Dev. = .886), quality of faculty (Mean = 3.369, Std. Dev. = .881), guidance and counselling (Mean = 3.120, Std. Dev. = .731), face-to-face interaction (Mean = 3.103, Std. Dev. = .789), and mentors' support services (Mean = 3.043, Std. Dev. = .704). However, about classroom management, teaching practices, quality of infrastructure, and collaborative activities, respondents rated them in negative terms. Overall,

the results show that the instructional quality of the CoE was perceived in positive terms (Mean = 2.779, Std. Dev. = .597).

The results mean that course evaluation and assessment procedures and pedagogical strategies of the colleges are of good quality and that there is a periodic evaluation of trainee teachers' professional skills. The finding that there is a high level of quality assessment is incongruent with the findings of Imoro (2019) who indicated that evaluation of teachers is not frequently done as expected and some trainees do not get the required number of supervision and evaluation specified by the institutions. Imoro added that this challenge is largely due to some logistic challenges that mentors face during supervision of teaching practices. Also, the finding on pedagogical quality shows that there is a high level of quality in the instructional delivery of CoE. The finding is consistent with that of Mbwesa (2014) who found out that 93.5% of the students perceived the quality of pedagogy as being good. This implies that the students regard the pedagogical aspects of their course as being good and quality.

Again, the finding that the quality of faculty and face-to-face interaction is good to show that trainee-teachers are satisfied with the professional competence demonstrated by CoE tutors about their teaching strategies and social interaction. This supports the assertion that the importance of the role of a competent instructor plays a significant role in the success of any education system (Aina et al., 2015; Senyamator, 2018). This means tutors of CoE can either make or break the system, so important consideration must be given to the role they play in such a system. Similarly, the findings mean that the various support services CoE provides to students and mentors are good.

Table 2  
Effectiveness of instructional quality in the delivery of basic education

Dimensions of instructional quality	Mean	Std. Dev.
<i>Pedagogical quality</i>	3.555	.783
<i>Assessment techniques</i>	3.410	.886
<i>Quality of faculty</i>	3.369	.881
<i>Guidance and counseling</i>	3.120	.731
<i>Face-to-face interaction</i>	3.103	.789
<i>Mentors' support services</i>	3.043	.704
<i>Classroom management</i>	2.371	.713
<i>Teaching practices</i>	2.121	.698
<i>Quality of infrastructure</i>	1.908	.795
<i>Collaborative activities</i>	1.793	.714
Mean of means (instructional quality)	2.779	.597
Dimensions of trainee teachers effectiveness	Mean	Std. Dev.
<i>Professional practices (assessment)</i>	3.023	.736
<i>Professional practices (managing the learning environment)</i>	2.772	.727
<i>Professional practices (teaching and learning)</i>	2.206	.714
<i>Professional knowledge</i>	2.128	.762
<i>Professional values and attitudes</i>	1.751	.732
Mean of means (trainee teachers effectiveness)	2.376	.657

Source: Field survey (2020)

(N = 682)

Overall, the findings mean that there is effective instruction in the various CoE when we consider facets such as pedagogical quality, assessment techniques, quality of faculty, support services, face-to-face interaction, and classroom management. Thus, the process of getting professional teachers ready for use and teaching in the various basic schools is effective. The findings are inconsistent with the comments of Imoro (2019) who avers that most trainee-teachers in CoE are not able to demonstrate a high level of instructional quality, a phenomenon which usually affects their effectiveness and efficiency about objectives and core points in the lesson plan, teaching methodology and delivery, and classroom organization

and management. Teachers with a high level of instructional quality are known for always coming to class (and leave) on time, with well-prepared lesson plans, instructional materials, engaged time on task, and everything is organized regardless of output or result produced in the teaching-learning process (Fuudia, 2019; Senyamator, 2018; Wright, 2017).

Concerning trainee teachers' effectiveness, the results from Table 2 show that professional practices in terms of assessment (Mean = 3.023, Std. Dev. = .736) and management of learning environment (Mean = 2.772, Std. Dev. = .727) were perceived to be effective. However, professional practices in terms of teaching and learning, professional knowledge, and professional values and attitudes were perceived as ineffective. In all, trainee-teachers were perceived not to be effective (Mean = 2.376, Std. Dev. = .657). This means trainee-teachers are not able to produce the desired results about their professional knowledge, practice, values, and attitudes.

Furthermore, trainee-teachers of the colleges are not able to demonstrate a high level of professional competency about making sure that objectives and core points in lesson plans are met, effective teaching methodology and delivery strategies are used, and classroom organization and management are done appropriately. The findings that trainee-teachers of the colleges are not effective is consistent with that of Mbwesa (2014) who avers that most fresh trained teachers are not able to exhibit a high level of effectiveness in the teaching job. Similarly, the findings are congruent with that of Imoro (2019) who posits that trainee-teachers are not able to demonstrate effectiveness during their teaching practices. However, the findings do not corroborate with that of Wright (2017), and Hill and Hawk (2017) whom all aver those teacher training institutions can prepare students enough to become good teachers who can demonstrate an adequate level of effectiveness in their teaching.

The rationale for the second research question was to understand *how trainee teachers' academic self-discipline plays a moderating role in the link between instructional quality and trainee teachers' effectiveness in the delivery of basic education in Ghana*. The analysis involved testing of two models. In the first model, the 10 dimensions of instructional quality were entered as independent variables while trainee teachers' effectiveness was treated as the dependent variable. The results are presented in Table 3. As indicated in the table, the dimensions that significantly influenced trainee teachers effectiveness were guidance and counselling ( $\beta = .278, p < .01$ ), mentors' support services ( $\beta = .123, p < .01$ ), quality of faculty ( $\beta = .111, p < .01$ ), pedagogical quality ( $\beta = .098, p < .01$ ), assessment techniques ( $\beta = .072, p < .05$ ), and collaborative activities ( $\beta = .057, p < .01$ ).

It is, however, significant to observe that the total contribution of instructional quality to the variance on trainee teachers' effectiveness was .493. This means that the instructional quality of CoE can explain 49.3% of the variance in trainee teachers' effectiveness. It further means that quite apart from the entered variables, other variables that are not yet considered in the first model have a chance of contributing 50.7% to trainee teachers' effectiveness. The study, therefore, introduced the moderator, which was trainee teachers' academic self-discipline to examine its moderating effect.

The study argues that the potency of trainee teachers' academic self-discipline can help enhance the influence instructional quality have on their effectiveness. As indicated in Table 3, all the 10 dimensions of instructional quality considered contributed significantly to trainee teachers' effectiveness. Dimensions that were not significant in the first model became significant when trainee teachers' academic self-discipline was introduced. Trainee teachers' academic self-discipline ( $\beta = .197, p < .01$ ) was significant when it was considered. This shows that the explanatory powers of instructional quality on teachers' effectiveness are shared with trainee teachers' academic self-discipline. The total contribution ( $R^2$ ) of the variables when academic self-confidence was introduced to the first model, increased from .493 to .797. This



shows that when academic self-discipline entered into the first model, the rate of increase of the  $R^2$  was 38.1%.

Table 3  
Models on the influence of instructional quality on trainee-teachers effectiveness

Variables	Model One			Model Two			Collinearity Statistics			
	Unstandardized Coefficient	Std. Error	Standardized Coefficient	Sig.	Unstandardized Coefficient	Std. Error	Standardized Coefficient	Sig.	Tolerance	VIF
Face-to-face interaction	.029	.024	.032	.217	.081	.030	.083**	.007	.341	2.933
Pedagogical quality	.111	.026	.098**	.000	.061	.021	.066**	.004	.600	1.667
Teaching practices	.046	.025	.045	.064	.046	.025	.044*	.016	.527	1.896
Classroom management	.029	.023	.036	.208	.097	.046	.098**	.001	.752	1.329
Assessment techniques	.066	.021	.072*	.021	.026	.023	.032*	.025	.378	2.648
Quality of faculty	.098	.022	.111**	.000	.222	.054	.242**	.000	.807	1.239
Quality of infrastructure	.046	.025	.047	.069	.223	.057	.237**	.000	.753	1.329
Guidance and counselling	.283	.022	.278**	.000	.382	.022	.377**	.000	.627	1.596
Collaborative activities	.058	.021	.057**	.005	.094	.027	.106**	.000	.477	2.096
Mentors' support services	.122	.022	.123**	.000	.145	.051	.158**	.005	.762	1.312
Academic self-discipline					.186	.053	.197**	.001	.743	1.346
Constant		1.464				.746				
R		.611				.893				
R Square		.493				.797				
Adjusted R Square		.471				.784				

Source: Field survey (2020)

\*p<.05, \*\*p<.01

(N = 682)

Dependent Variable: Trainee-Teachers' Effectiveness in the Delivery of Basic Education

The findings reinforce the researchers' argument that trainee teachers' academic self-discipline is a moderator that helps in boosting the influence of instructional quality on trainee teachers' effectiveness. Furthermore, a serial-multiple mediation model six was conducted to find out how the effect of the predictors on the criterion is explained through causal effect of a moderator to the other. Statistical significance of the tested model in the current research was studied through the software developed by Hayes (2018), the approach based on ordinary least-squares regression, and the bootstrap method. The analysis used 10,000 bootstrap samples using a 95% confidence level. The results revealed that although the effect of instructional quality on trainee teachers' effectiveness is explained by academic self-discipline; the serial path seems to differ with specific dimensions of the predictors.

Based on the results, the model (Figure 1) of the study was found to be fit based on the assertion of Hayes (2018) that the mean square error of the model should be closer to zero. In the case of this model, it was .097 which shows that the model is fit. This shows that when trainee-teachers begin to believe that they can perform well in the field of academics, and also behave in a way that makes them determined in all what it takes to be academic abiding students, then the qualities of the instruction they receive in their various colleges stand to strongly influence their effectiveness as professional teachers significantly.

Thus, the higher the quality of the learning activities and instructional methods that promote learner interactions in CoE as well as delivery of suitable and quality content to learners, the higher the effectiveness and competence level of trainee-teachers. The finding that pedagogical quality has a significant effect on trainee teachers' effectiveness is consistent with the assertion of Antoniou (2018) who posits that instructor competency and quality of delivery is wholly predicated on possession of action system and subject matter knowledge. However, the finding contradicts that of Imoro (2019) who found a very weak relationship between pedagogical quality and teacher effectiveness. Imoro added that the weak relationship was not attributable to low-quality instruction only but also to the uncooperative attitude of the learners who normally do not learn their study materials very well before attending class.

Again, the findings from Table 3 show that a high level of instructional quality ends up producing competent teachers. Societies require all students to be taught by teachers with professional and subject-matter competencies who can demonstrate competence in their teaching. To produce such teachers, there is the need to ensure that there is quality instruction in the various CoE to ensure effectiveness in the delivery of basic education in Ghana. Research has shown that the teacher is the most important school-related factor in student achievement (Hill & Hawk, 2017). Therefore, ensuring that there is a high level of instructional quality in the various CoE is a key pillar in producing effective teachers at the basic level of education. All things being equal, producing effective teachers for basic schools would lead to a high level of effectiveness in the delivery of basic education in Ghana and beyond.

### **Limitations**

The study would have been conducted to cover all trainee-teachers in the various CoE in Ghana. However, the researchers were not in a good position to undertake such a venture due to logistical constraints. The limited area of study coupled with the sampling procedure may affect the generalization of the findings of the study to all trainee-teachers in CoE since only final year trainee-teachers of Accra and Ada CoE were considered. Therefore, the results of the study can best be generalized to the study population. The generalization of the findings of this study to other groupings with similar characteristics must, therefore, be done with caution. In terms of instrumentation, using only a questionnaire to collect the data may not be so apt to elicit every needed data which would perhaps, add to the quality of information required for the study since the items/statements were close-ended and numerical in nature.

## **Conclusions**

The study concludes that CoE can develop a high level of instructional methods that promote learners' interaction in various forms, as well as deliver quality content to trainee-teachers. However, trainee-teachers are not able to demonstrate effectiveness, especially regarding their professional teaching and learning activities, knowledge, values, and attitudes. Also, whenever trainee-teachers show a high level of competence in terms of their ability to demonstrate effective command over possession of subject matter knowledge, lesson presentation skills, class management and control, and lesson note preparation, they increase the extent to which their level of teaching meets pre-specified standards and goals. However, if they can demonstrate a high level of academic self-discipline, they end up boosting the impact that instructional quality has on their ability to achieve the desired result without wasting energy.

## **Recommendations**

Based on the findings and conclusions, it is recommended to the management of CoE to ensure and encourage tutors to keep the good work that they are doing about quality evaluation and provision of quality pedagogical skills to trainees. Also, they need to provide better support services and learning materials that can bring diversity in the colleges by employing visual, auditory, and kinaesthetic materials such as the use of technology and students' project writing and presentation among other methods. Similarly, they should ensure that the provision of support services to learners and tutors is an integral part of the colleges' education process and that more time and status should be allocated for that. Also, management must ensure that both tutors and students are guided and counseled on appropriate instructional behaviors that when adopted will boost the instructional quality level of the institutions, which in the long run will lead to a significant increase in trainee teachers' effectiveness.

In addition, the Ministry of Education through the National Accreditation Board and National Council for Tertiary Education should ensure that designers and reviewers of teacher education programs factor in more professional courses and some social-oriented courses such as School and Community; Family, School and Community collaborations; and Sociology of Teacher Education to help enhance teachers' effectiveness, and to develop their competencies in teaching from known to unknown, taking into consideration the Ghanaian cultural context.

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