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CHAPTER-V

FINDINGS AND DISCUSSION

5.1 Introduction

In the preceding chapter, i.e., Chapter-IV of the present study, a detailed analysis of the collected data about the BTE curriculum in Ghana was presented. The findings were arrived based on the Humanistic Approach cum CIPP model of curriculum evaluation that was employed to conduct this study as presented in Chapter-I. As per this approach, qualitative data were collected from curriculum experts (Regional Directors of Education, BTE principals, and BTE tutors), alumni and student-teachers for their views about the BTE curriculum that was started in 2014 in Ghana. Here in this chapter, an attempt has been made to discuss the findings that have emanated from the analysis of the data.

5.2. EVALUATION OF THE BTE CURRICULUM OBJECTIVES

The curriculum objectives are crucial for curriculum design and implementation. It is critical to consider the objectives when framing the curriculum to reflect the needs and aspiration of the people. Therefore, four curriculum objectives have been incorporated into the BTE curriculum to prepare effective teachers. The BTE curriculum objectives are; 1) To produce generalist teachers capable of teaching all subjects at the Primary and J.H.S. levels, 2) To produce specialist teachers capable of teaching specific subjects such as Mathematics, Science and Technical at the JHS level, French at both Primary and JHS levels and Early Childhood Education, 3) To produce teachers who have a clear grasp of intended outcomes of their teaching activities, who are skilled in monitoring, diagnosing and appropriately providing equal opportunity to all the pupils, and 4) To promote a close working relationship between Colleges of Education and local schools through the “Out” component of the program.

For studying the relevance of BTE curriculum objective-I, it can be learnt that general content knowledge and pedagogy was required from the basic school teachers to teach all the school subjects effectively. This objective appeared relevant at the primary schools where teachers assumed full responsibilities as classroom teachers and tasked to teach all the subjects on the class time table. But it was found that in the case of JHS, the generalist teachers were lacking mastery of subject knowledge, presentation

and classroom. This phenomenon was prominent in the teaching of school subjects like Mathematics, Integrated Science, Music and Dance and Creative Arts. In this situation, the findings of Collins (2016) could be referred to. This author studied Generalist pre-service teacher education, self-efficacy and Arts Education and found that generalist teachers enter the teaching profession with limited teaching skills. This finding was arrived at probably because the study assessed Teacher Self Efficacy in three different teacher preparation courses like Dance, Drama, Music and Visual Arts where professional skills are required to achieve instructional objectives. This also supports the findings of Sirek and Sefton (2018) which found that generalist teachers lack content knowledge and pedagogical skills to plan and teach Music effectively in elementary schools. Pezaro (2017) concludes that generalist teacher is fit to teach in primary schools as they have confidence, patience, and can help pupils to consolidate content across all the subject areas. As mentioned by experts (the Regional Directors of Education, the BTE principals and tutors) the objective should be modified to prepare generalist teachers for primary schools and specialist teachers for JHS level.

It was observed that the alumni who were teaching these subjects were effective in presentation, mastery of subject matter and using effective classroom management techniques in achieving a high response rate of response from the students. This creates an impression that the BTE curriculum objective-II is relevant for producing effective teachers. This is supported by Haworth, (2018) that specialist teachers were equipped with the requisite knowledge and pedagogical skills and commitment in teaching as per the needs of the students. Also, Swars, et al, (2018) found that the teachers demonstrated knowledge of the subject matter and confidence in the teaching of Elementary Mathematics. But it was found that a few of the alumni were allowed to teach their elective subjects at the JHS. This was because all of them were trained on a generalist BTE curriculum and were expected to teach in any class or subject without options. It looks as if the selecting of these curriculum objectives were not reflecting on the placement and staffing of the basic school teachers. Due to this, most of them were being under-utilized particularly at the lower primary school.

The curriculum objectives-III were found as appropriate for preparing competent teachers in planning achievable lesson plan, able to involve students in activities, and could employ appropriate strategies to evaluate learning outcomes. But most of the teachers were not capable of teaching in an inclusive classroom. It was observed that

most of them were not paying attention to the individual learning needs of the students. This suggests that ‘the skill in monitoring,’ which is a component of the BTE curriculum objective-III, was not reflected in those lessons. This phenomenon agrees with the study conducted by McKernan (2010) which found that the objectives of most of the curricula do not reflect the knowledge structure and values of a program and so, many teacher educators do not plan lessons according to the curriculum objectives. Also, Norman Watts (1972) conducted a study on an evaluation of the objectives of an elementary teacher education program and found that the objectives were placing less importance on the selection and organization of content, and the management and organization of the learning environment. Though the alumni had a clear grasp of intended outcomes of their teaching activities, they were not providing equal opportunity for all pupils. This was irrespective of the class or subject they were teaching. This is to say that this objective is not achieved by the BTE program and needs to be re-looked.

For curriculum objective-IV was to promote a close working relationship between colleges of education and local schools. As per this objective, out-program teaching practice is an important component as it helps teachers to understand the local schools, community and their culture. This was sixteen weeks program organized in the sixth semester for student-teachers to acquire first-hand teaching experience in cooperating schools. They also visited some places of educational interest and had social interactions with community members during this period. This helps in building a healthy relationship between the colleges and the communities. As envisaged by Kalkan (2016), community involvement in teacher education is crucial for achieving the educational goal and is crucial for the BTE curriculum (Nti-Adarkwah and Ofori (2019). The community factor is supposed to take precedence in every teacher education curriculum to establish a close working relationship between communities and the institution.

From the above discussion about the evaluation of the four objectives of the BTE curriculum, it can be stated here that the following are the valid findings.

- i. Objective-I is relevant only for primary section and it needs to be changed; a) to produce generalist teachers to teach at the primary school, and b) to produce specialists teachers to teach at the JHS level.

- ii. Objective-II is relevant for producing specialist teachers capable of teaching specific subjects such as Mathematics, Science and Technical at the Junior High School (JHS) and should be retained.
- iii. Objective-III is relevant for produce teachers who have a clear grasp of intended outcomes of their teaching activities, who are skilled in monitoring, diagnosing and appropriately providing equal opportunity to all the pupils. Therefore, this objective should be retained.
- iv. Even though the BTE curriculum objective-IV was relevant for promoting the close-working relationship between Colleges of Education and local schools through the “Out” component of the programme, the curriculum experts reported that it should not stand as an objective as it was a mean of teacher preparation.

5.3. EVALUATION OF BTE CURRICULUM CONTENTS AND MODES OF TRANSACTIONS

To evaluate the contents of the BTE curriculum, the courses have been put into three categories; 1) Educational and Contemporary Studies, 2) Curriculum and Pedagogic Studies, and 3) Value Added Courses. These courses are spread across the six semesters as per the BTE curriculum, 2014 and the findings and discussion are presented below.

5.3.1. First-Semester Course

Under this semester, eight courses were transacted. The courses and their respective course codes with credits are presented in table-4.10. The discussions about the findings in these courses are presented as follows.

5.3.1.1 English Language Studies (FDC 111)

It was reported that FDC 111 was having five relevant objectives, and appropriate contents for preparing student-teachers in the area of grammar, speech work, writing and reading. These contents were transacted by using appropriate teaching methods and modes of assessments for preparing competent English teachers. This contradicts the findings of WAEC (2017) and Adjei (2015). This author arrived at this finding because the study was conducted in three BTE colleges that were selected from one region out of the ten geographical regions of Ghana. This means his methodology was not appropriate so, the result cannot be generalized. However, it was reported that the

two credit hours were not appropriate to contain the contents and should be modified. It can be concluded that the course objectives, contents, and methods of transactions, and evaluation are relevant and appropriate for BTE course. But as the contents were lengthy and it needs more number of hours than planned, credit hours may be increased.

5.3.1.2 Mathematics (FDC 112)

It was found that FDC 112 has relevant course objectives, contents (except the use of calculators and logarithms), methods of teaching, evaluation methods and the allotted two credits were appropriate. This is in contradiction with the finding of Nabie et al (2018) that the student-teachers lacked the knowledge of the basic concepts of trigonometry as it was inappropriately taught at the colleges. This author collected data from second-year student-teachers from two BTE colleges in Ghana. As there are about 43 colleges, data from only two might not provide appropriate data. The findings of the present study also contradict the finding of Enu et al (2015) who found that majority (88%) of the tutors used lecture method for teaching Mathematics in the colleges. These authors randomly selected 50 student-teachers from three CoE in two regions (central and western). It can be said that their methodology was not appropriate to provide the needed data for generalization. Therefore, it can be concluded that the FDC 112 has relevant course objectives, appropriate credit hours, contents, teaching methods and modes of assessments. However, to further strengthen this course, certain suggestions were provided for further improvement of the course. The suggested modifications are; inclusion of money and tax, factors and angles, and methodology of teaching Mathematics.

5.3.1.3 Ghanaian Language and Culture (FDC 113)

It was found that this course has three objectives and were judged as not appropriate but the contents, credit hours, assessment procedures including various methods used to transact in classroom-teaching were judged as appropriate to equip student-teachers with required knowledge about the syntactic structure of the language and usage. This finding contradicts the finding of Kidwell (2019) which states a few opportunities were provided for language teachers to acquire teaching skills to teach different cultures in the classroom. Maybe, the author arrived at this because the study was conducted in a foreign country (Indonesia) which has a different teacher education

programme. It was suggested by experts in the present study that to make this course relevant to Ghanaian culture, the course outlines of the Ghanaian languages need to be written in the vernacular language. The suggestions that emerged from the study were; there should be differences in the contents of the Ghanaian languages as culture and tradition differ, the reading list should be modified to encourage extensive reading, and methodology of teaching Ghanaian language & Culture should be incorporated to equip student-teachers with pedagogical skills.

5.3.1.4 Integrated Science (FDC 114)

It was found that FDC 114 involves four Science subjects' viz., Agriculture Science, Biology, Chemistry, and Physics. Agriculture had five relevant course objectives, appropriate course contents in terms of subject matter which is connected to the basic school Agriculture Science syllabus. It was transacted by using appropriate teaching methods within three weeks duration. However, it was reported that the modes of assessments of learning outcomes of student-teachers were inappropriate for not emphasizing on practical skills due to lack of farms at the BTE colleges, and equipped laboratories. This must be re-looked. The Biology aspect was reported having four relevant course objectives, and appropriate assessment procedures, and contents. These contents were appropriate for providing content knowledge but practical was not given equal weightage in this course. This could be largely attributed to unequipped Biology laboratories in the colleges and must be relooked. This supports the finding of Mbaga et al (2018) which states that the performance of the student-teachers in Science and Technical subjects was poor due to lack of equipped laboratories and workshops in teacher training colleges. Also, the three weeks duration of this course and the Lecture method was not appropriate and should be re-looked. For Chemistry aspect, it was reported that course objectives were not found. This phenomenon looks inappropriate because the course objectives were supposed to be the road map for transacting the contents. It was also reported that teaching methods were not appropriate even though the course contents, two weeks of course duration, and modes of assessments were appropriate and suited for the course. For Physics components, no course objective was found. And the lack of course objectives makes it difficult to transact the contents properly and must be relooked. According to Norman Watts (1972), teachers need to have a clear understanding of the curriculum objectives to plan effective lessons. However, the course contents,

teaching methods modes of assessments and five weeks course duration were reported as appropriate for producing teachers.

5.3.1.5 Religious and Moral Education (FDC 119)

This course has one appropriate credit hour that was not appropriate, five instructional objectives which were reported as adequate and relevant in determining learning outcomes of student-teachers. It was also reported that the contents were appropriate in terms of imparting knowledge and understanding of Religious Development Theories and Moral Development Theories onto the student-teachers. The contents have helped the prospective teachers to draw some educational implications from these theories to plan instructions for teaching and learning. It was observed that the relationship between “Religious Education” and “Moral Education” was in the proper perspective. This phenomenon emphasized on the “educational aims” and “non-educational” aims of teaching Religious and Moral Education which would be useful content knowledge acquired by the prospective teachers. The course was transacted by using appropriate teaching methods such as Discussion, Brainstorming, and Lecture, as used by them in teaching most frequently, were appropriate for achieving instructional objectives. A study has shown that these teaching methods were problem-based learning that are appropriate for teaching RME (Schuitema et al, 2007). The type of questions and the number of the question set in both formative assessment and summative assessments properly reflected on the contents covered. While the structure questions developed critical thinking skills of the student-teachers, the unstructured question helped the tutors to find out the weakness of student-teachers as they try to organize the subject matter in the form of long answers. It can be concluded that course objectives, contents, teaching methods and modes of assessments were appropriate for preparing student-teachers, one credit hour was not appropriate and should be modified.

5.3.1.6 Environmental and Social Studies (FDC 118)

This course has one appropriate credit hour, relevant course objectives and appropriate contents for exposing student-teachers to the physical environment (Air, Land, and Water) and its related issues like pollution and land degradation. As we know that this course derives ideas, concepts, facts and generalizations from various fields to explain societal issues and to address societal problems, these were the desire

subject knowledge that student-teachers required to be effective at the basic school. This supports the finding of Bekoe et al (2013) and Quashigah et al (2014). Also, the contents were transacted by using appropriate teaching methods and appropriately evaluated. Therefore, it can be concluded that this course is very much relevant and appropriate for the BTE program in Ghana. To further improve this course, the suggestions that emerged from this study are; Social Science subjects like history, economics, sociology, and politics, and a topic like ‘uses of land,’ should be offloaded as it could be taught in Agriculture Science.

5.3.1.7 Creative Art and Technology (FVA 111)

It was found that FVA 111 has two instructional objectives that were not relevant. This was because the objectives were inadequate to match up with the selection of contents which might not help the tutors to achieve learning outcomes. Such findings were reported by Norman Watts (1972) who found that the objectives were placing less importance on the selection and organization of content, and the management and organization of the learning environment. However, it was reported that one credit hour, the modes of assessments, and contents were appropriate for preparing student-teachers. The contents areas like basic design, colour work, drawing, and concepts of creativity were covered. These contents were equally taught at the school level which would not be a challenge for prospective teachers who have already studied them. For teaching methods, it was found that Discussion, Project, and Brainstorming were not appropriate as per these contents. Also, Pedagogy was not given equal weightage as Methodology of teaching was not incorporate. For this reason, most of the student-teachers were lacking skills and confidence to teach creative lessons resulting in an abysmal performance at the school level. This was reported by WAEC Chief Examiners (2017) that the BECE candidates also demonstrated inadequate knowledge in practical subjects like Basic Design and Technology. Also, the one credit hour and reading list were not adequate as per the contents while the teaching methods viz., Discussion, Project, and Brainstorming were not adequate to provide prospective teachers with practical skills. For lack of workshops and materials in colleges, student-teachers were made to buy personal material for this course. This was a demotivation for most of the student-teachers who could not afford. Therefore, Huedenu and Adibi Maria-Goretti (2015) concludes that the CoE program needs to be given adequate facilities to influence the use of appropriate teaching methods by

tutors to achieve instructional goals. It can be concluded that the contents, the modes of assessments were appropriate while the course objectives and the one-credit hour were not appropriate. To improve this course to prepare effective teachers, suggestions were given that the course objectives should be re-looked, printmaking should be incorporated in the contents, and one-credit hour should be increased to three.

5.3.1.8 Principles and Practice of Education (EPS 111)

It was found that this course has four objectives having suitable contents that are relevant, the methods of teaching and evaluation are also appropriate. However, the findings from the study of Patti (2013) depicts that the products of the course lack in the application of knowledge. It may be that the study of Patti was conducted in another setting. Therefore, it can be concluded that this course is very much relevant and appropriate for the BTE program in Ghana.

5.3.2 Second-Semester

Under this semester, nine mandatory courses were transacted. The courses and their respective course codes and credit hours are presented in table-4.54. The discussion about the findings in these courses are presented as follows.

5.3.2.1 English Language (FDC 121)

It was found that this course has four relevant objectives, two appropriate credit hours, and appropriate contents for exposing student-teachers to a text in one of the literature genres (prose) and some elements of grammar such as sentence patterns and punctuation. These contents are broad in scope with a blend of learning activities in literature, writing and communication skills which were the fundamental learning experiences that were required to develop the literacy skills of the student-teachers. But Adjei (2015) conducting a study on the English language found otherwise maybe because he arrived at the finding by limiting the study to ‘sentence structure-subordination’ and should not be generalized. The course was transacted by using appropriate teaching methods such as Discussion, Brainstorming, Grammar-Translation and Storytelling, and appropriate evaluation procedure to make teachers effective. Therefore, it can be said here that this course is appropriate for the BTE program of Ghana. To further improve this course to prepare competent teachers, a

suggestion was given that contents should be incorporated with the methodology of teaching English language and literature genres.

5.3.2.2 Mathematics (FDC 122)

It was found that FDC 122 has three relevant objectives and appropriate contents for preparing student-teachers in Geometry and Trigonometry. It was reported that the teaching methods and assessment procedures were appropriate for exposing student-teachers to geometrical construction including loci, movement geometry and vectors which concepts provide a better understanding of Geometry and Trigonometry. Based on the knowledge acquired, they would be able to solve problems involving shapes, perimeters, areas and volumes. This contradicts the finding of Nabie et al (2018). These authors studied pre-service teachers' perceptions and knowledge of trigonometric concepts in two Colleges of Education in Ghana and concluded that the student-teachers in Ghanaian College of Education lacked knowledge in the basic concepts of trigonometry. Maybe their finding was based on the data generated from only two colleges which are not appropriate for making a general conclusion. Also, it was reported that the two credit hours, and modes of assessments, and teaching methods were appropriate for preparing prospective teachers to be effective. Therefore, it can be concluded that this course is appropriate for equipping student-teachers with knowledge and pedagogical skills for classroom teaching. Some suggestions that emerged from the present study to be incorporated in the contents for further improvement are; construction of TLM to reinforce learning, methods of teaching through games, and technology integration strategies to enhance teaching and learning.

5.3.2.3 Ghanaian Language and Culture (FDC 123)

It was found that this course has one appropriate credit hour and contents to expose student-teachers to the Ghanaian literature with emphasis on the characteristics and features of oral and written literature. This suggests that the contents were equipping student-teachers with knowledge of Ghanaian literature thereby making them appreciate different cultures. This supports the finding of Akyeampong (2017). However, it was found that the five-course objectives were irrelevant as some important aspects of the contents like poetry and some selected novels were not covered. Also, the teaching methods and modes of assessments of learning outcomes

were not appropriate for preparing student-teachers and must be modified. Therefore, suggestions were provided for improvement of this course which includes; the contents should be designed in literary canon form. This means student-teacher must be introduced to the background of literature from a Ghanaian perspective. Also, student-teachers should be allowed to choose literature books of their interest from a list of recommended books.

5.3.2.4 Integrated Science (FDC 124)

This course is comprising four Science subjects viz., Agriculture Science, Biology, Chemistry, and Physics. It was found that Agriculture Science subject has six irrelevant course objectives. This was because some of the objectives viz., measuring equipment of the weather, and methods of controlling diseases, pests and parasites were not feasible due to lack of practice. This agrees with the findings of Vidergor, Hava, Noga and Salman (2018) and Filson and Agyekum (2014). Also, the modes of assessments and three weeks duration of the course were reported inappropriate for preparing student-teachers. However, it was reported that the teaching methods viz., Brainstorming, Demonstration, and Project, and the contents were appropriate for teaching subject matter although pedagogy was not given due weightage and should be relooked. About the Biology aspect, three-course objectives were found with the third objective being irrelevant and not feasible because of facilities problems in the BTE colleges. This was also reported by Huedenu and Adibi Maria-Goretti (2015). Even though the contents were appropriate for providing subject matter, it was reported that teaching methods, modes of assessments and two weeks duration were not appropriate and should be modified. For the Chemistry subject, course objectives were not found. This suggests that the curriculum designers did not set the objectives. This is inappropriate and must be relooked. Even though the contents were appropriate for exposing student-teachers to the concepts of compounds and mixtures, it was reported that teaching methods, the two weeks of course duration, and modes of assessments were not appropriate for transacting the course and must be modified. It was further reported that the Physics subject was having appropriate contents, transacted by using appropriate teaching methods within a suitable three weeks duration. However, it was found that the course objectives were not set by the curriculum designers, and assessment procedures were not appropriate to prepare prospective teachers. This must be addressed to produce competent teachers in Ghana.

5.3.2.5 Environmental & Social Studies (FDC 128)

It was found that the FDC128 was having five relevant course objectives. The one-credit hour allotted to this course was inappropriate. It was also found that the course contents were appropriate in terms of equipping student-teachers with knowledge of Governance, Politics and Stability in Ghana. This suggests that they would be effective in the classroom teaching relevant historical events such as the peopling of Ghana (our origins), dealings with early Europeans, colonization, our independence and nationhood of Ghana which were linked to the basic school syllabus. Also, modes of assessments and teaching method viz., Discussion, Brainstorming and Lecture were reported to appropriate for achieving instructional objectives. This was supported by the finding of Huedenu and Adibi Maria-Goretti (2015). Therefore, it can be concluded that this course is appropriate for BTE curriculum in Ghana. Some suggestions that emerged for further improvement of this course are; a field trip should be encouraged for a minimum of once every semester for student-teachers to gain new experiences and exposure about the environment, and there is a need to incorporate contents about the use of reference material such as the globe and a map to find critical information about geographical places for learning purposes.

5.3.2.6 Music and Dance PRA 121

The PRA 121 is one of the papers of Music and Dance designed as one credit hour core paper covering the elements of Music, Dance and Drama. It exposes student-teachers to the role of the performing arts in the social, economic, political and religious lives of Ghanaians (Institute of Education, UCC, 2014). It has five instructional objectives stated by the curriculum designers that were judged as irrelevant as per the selected contents. It was reported that the contents were appropriate in terms of helping student-teachers to recognize the role of the performing arts in national development. This suggests that student-teachers have learned the various contributions that Music and Dance have been making towards national development. Therefore, the knowledge gained here would motivate those who wish to pursue this subject to the highest level to develop their career paths. Also, the contents have exposed student-teachers to different musical instruments and their mode of tone production. It is argued that musical instruments appear in different shapes and sizes. For student-teachers to develop their skills in playing with instruments, they need to be familiar with the variety of sounds transmitted. However,

further investigation with student-teachers revealed that most of them couldn't develop their basic drumming skills as there was a lack of musical instrument in BTE colleges for practice. For this reason, it was impossible to develop their discriminatory listening skills and observation skills as stated as an instructional objective one, even though assessment procedure and teaching methods viz., Demonstration, Discussion, Brainstorming, and Role Play were appropriate for creating a comfortable learning atmosphere in the classroom. To the tune of the phenomenon, Mbaga et al (2018) conclude that the student-teachers were lacking practical skills because of inadequate training facilities. To prepare an effective teacher, pedagogy is essential. But it was observed that the methodology of teaching Music and Dance was not incorporated in PRA 121, and one credit hour was not appropriate to contain the contents. This makes weightage of pedagogy imbalanced to prepare effective teachers. Therefore, it can be concluded that this course was had appropriate contents, transacted by using appropriate teaching methods and assessment procedures. However, the credit hours, pedagogy and course objectives were not appropriate and need to be modified. Some suggestions that emerged for further improvement of this course are; student-teachers should be trained to critique ready-made Music and Dance to develop their senses of judgment, and there should be contents on the methodology of teaching PRA 121 to equip the student-teachers with pedagogical skills.

5.3.2.7 Physical Education (PRA 122)

This paper having five instructional objectives was judged by tutors as appropriate in establishing a foundation for student-teachers to study PE. It was reported that the contents were appropriate in terms of subject knowledge as learning experiences were connected to physical fitness. For this reason, student-teachers were introduced to health and motor skills which would help in performing basic patterns of physical activities in the classroom. This is supported by Sofu and Asola (2016). It was also reported that the contents were appropriate for preparing student-teachers to trace the modern Olympic Games to the Ancient Olympic Games. Olympic Games in modern days evolved from the old Olympic Games in Greece and might have been serving a different purpose in terms of events, date, and venue and the participating countries. This is to say the student-teachers have gained insight into these games to be effective. More specifically, student-teachers have acquainted themselves with how the modern Olympic Game had survived until today. In this scenario, it can be said

that the course objectives have provided a proper foundation for student-teachers to study PE to develop their potentials. However, one credit was inadequate and inappropriate as per the contents. Also, the methodology of teaching was not incorporated which leads to pedagogical imbalances. This could be attributed to inadequate infrastructure facilities in BTE colleges like swimming, gymnastic, cricket, etc. For this reason, limited physical activities viz., football, volleyball, athletics, table tennis, basketball, and handball were most frequently performed at the BTE colleges. Such findings were also found by Sofo and Asola, (2016). It was further reported that the assessment of learning outcomes of student-teachers, and the teaching methods such as Discussion, Brainstorming, and Demonstration, were appropriate to achieve objectives. Therefore, it can be said that this course was having relevant objectives, appropriate contents, transacted by using appropriate teaching methods and assessment procedures. However, the one-credit hours was not enough and should be increased. Some suggestions that emerged for further improvement of this course are; the contents should be integrated with other disciplines like Science and HIV/AIDS Education for student-teachers to acquire multiple skills, and the colleges should collaborate with the local sporting clubs to exchange expert knowledge and facilities.

5.3.2.8 HIV/AIDS Education (GNS 121)

It was found that this course having one credit hour, five instructional objectives, modes of evaluation, and the contents were relevant and appropriate. This serves as a sensitization course to make student-teachers understand issues of HIV/AIDS in the context of causes, effects, prevention and common misconceptions covering its transmission. This is in line with the ideas proposed by Martin Weiler and Martin Weiler (2012) that teacher education curriculum must empower teachers to act against stigmatization and fears in the context of HIV/AIDS in schools and the communities in which they found themselves. Indeed, most of the student-teachers on out-program behaved responsibly in the world of HIV/AIDS. They related properly with community members who were having related sickness. This contradicts Laren (2011) assertion that generalist teachers were not adequately prepared to teach HIV/AIDS education. Here, generalist student-teachers were acting as the agents of change in building a supportive environment by giving care, attention, and offering referral services to people living with HIV and AIDS in their communities. To conclude, it can be said that modes of assessments, one credit hour, and teaching methods viz.,

Lecture, Discussion, and Brainstorming used by tutors were appropriate for achieving instructional objectives but the pedagogy was not given due weightage and must be relooked. Some suggestions that emerged for further improvement of this course are; the BTE colleges should establish a collaboration with HIV/AIDS agencies for resource persons, and the HIV/AIDS education contents should be integrated into all the BTE course to offload the BTE curriculum.

5.3.2.9 Catering (FVH 122)

This course is core having one credit hour with ten course objectives that were not appropriate and relevant. Most of the course objectives were not feasible due to facilities constraints at the BTE colleges. However, it was reported that the contents were appropriate in equipping student-teachers with the subject matter particularly on hygiene and food poisoning. This means provision was made for prospective teachers to acquire values, life skills and knowledge that are fundamental to healthy living. Gopinathan et al (2008) also reported that quality teaching is characterized by a greater emphasis on teachers' values, skills and knowledge for teaching and changing lives and teaching methods viz., Discussion, Brainstorming, Project, and Demonstration were not appropriate to develop these values among the student-teachers. About the modes of assessments, formative and summative methods were used that could not stimulate creative thinking skills and generate new ideas to solve problems. Huedenu and Adibi Maria-Goretti (2015) also reported similar findings that the questions in both formative and summative assessments in colleges of education in the Central and Western Regions of Ghana encouraged student-teachers to recall facts and concepts but not what they could do practically. Therefore, it is suggested that this approach is unacceptable for preparing 21st-century teachers and must be revised. Some other suggestions that emerged for further improvement of this course are; the mode of external assessment should be revised to allow student-teacher to experiment with their catering skills in a modern kitchen, the BTE colleges should collaborate with local Vocational Institutions for exchange of resources and ideas, and student-teachers should be allowed to prepare African dishes regularly, once every week, to sharpen their catering skills.

5.3.3 Third-Semester

Under this semester, 12 courses (seven core & six optional) were transacted. The courses and their respective course codes and credit hours are presented in the

previous chapter (table-4.109). The discussion about the findings related to these courses are presented here.

5.3.3.1 Principles and Methods of Teaching in Basic School (EPS 211)

This course has two credit hours and four objectives that were found as relevant and appropriate for preparing students. It was also found that the contents were appropriate as reflecting the current teaching practices as per the changing needs of society. This is because the course has defined the pace for selection of essential concepts viz., lesson planning, teaching methods and classroom management and adjusting appropriately within the frame of two credit hours. Student-teachers have studied how to prepare an achievable lesson plan for teaching in the classroom particularly during practice teaching stage. This suggests that the contents were appropriate for equipping teachers with the skill of designing lesson plans in relevant subject areas and were able to use a variety of teaching methods to achieve instructional objectives. This contradicts the findings of Sharon Wolf, et al (2017). The authors studied Early Childhood teachers and found that newly trained teachers could not apply appropriate pedagogy in their classrooms. These teachers received training from a specially designed curriculum which operates on separate objectives and cannot be generalized. Considering the levels of the student-teachers, teaching methods like Discussion, Lecture, and Brainstorming, were appropriate for this course. But it can be argued that the lecture method was not appropriate because of participation impediment. The use of assessment tools for internal assessment (written assignment, mid-semester test, and class attendance), and summative assessment having the appropriate questions and duration to consolidate the learning outcomes of the student-teachers. Therefore, it can be concluded that this course is appropriate for the BTE program in Ghana. Suggestions that emerged for further improvement of this course are; the concept of professional development of teachers should be incorporated to provide strategies for professional adjustment, and the reading list must be updated so that adequate books that are relevant to this course be made available on the reading list to support extensive reading.

5.3.3.2 Educating Individuals with Special Needs (EPS 221)

Educating Individuals with Special Needs has two appropriate credit hours but the four objectives and its contents were found as irrelevant. As it was observed by the

researcher during the field visit that most of the student-teachers were not capable of managing and teaching children with special needs in classrooms. It was also observed that the student-teachers were not exposed to instructional strategies for handling and teaching children with special needs during practice teaching. Such findings were reported by Okechukwu and Kuyinin (2017) in their study. It was further reported that the assessment procedures and teaching method (lecture method) was not appropriate for developing problem-solving skills and not suited for preparing student-teachers in this course. Gyimah and Amoako (2016) and Kuyini et al (2016) concluded that the CoE curriculum should be revised to equip the pre-service student-teachers with knowledge and skills to apply teaching methods to assist children with learning difficulties. Therefore, it can be said that this course is not appropriate and must be modified to prepare effective student-teachers in Ghana. Suggestions that emerged for further improvement of this course are; student-teachers should be allowed to visit special training schools to observe the instructional strategies that teachers in such schools adopt in achieving instructional objectives, and behavioural management should be incorporated to help basic school teachers to manage classrooms effectively.

5.3.3.3 Environmental and Social Studies (FDC 218)

FDC 218 has one credit hour and found as inappropriate as per the volume of contents. However, the course objectives were relevant with appropriate contents for exposing student-teachers to concepts relating to Socio-Economic Development in Ghana. The contents highlighted on production and productivity, varieties of resources, technology, and population, the concept of money and tourism and leisure. These concepts accorded relevant subject matter for student-teachers to be effective as they were linked to the basic schools' Social Studies syllabus. It was also reported that the modes of assessments and the teaching methods viz., Discussion, Brainstorming and Lecture were appropriate for achieving instructional objectives. Such findings was reported by Quashigah et al (2014), and Huedenu and Adibi Maria-Goretti (2015). Therefore, it can be concluded that this course is appropriate for preparing prospective teachers for Ghana. Suggestions that emerged for further improvement of this course are; there is a need to incorporate content on process developing skills to help solve critical problems, recreation and tourism should be

incorporated to create a sense of leisure time and tourism in society, and the one-credit hours should be increased to three to provide ample contact hours.

5.3.3.4 Mathematics (FDC 222)

This course was found having relevant three-course objectives, appropriate one credit hour, and contents in exposing student-teachers to further algebra. Most of the contents (except the use of calculators and logarithms) were linked to the basic school Mathematics syllabi indicating that the student-teachers would have been fortified with the appropriate subject matter in the areas of Series and Sequences, Binary Operations, Matrices and Binomial expansion. These are the fundamental concepts that can develop their knowledge in operation with real numbers to be effective in classroom teaching. Although most of the contents were judged as appropriate, it was reported that patterns in calendar numbers (3x3) and (4x4); 3x3 and the magic square were inappropriate and pedagogy was not given equal weightage as the methodology of teaching Algebra was not incorporated. Such finding was also reported by Nabie et al (2018). These contents particularly the number patterns and the magic squares were not connected to basic school Mathematics syllabus. For this reason, most of the generalist teachers could not apply appropriate instructional strategies to achieve learning targets in Mathematics and must be addressed. A similar result was found by UNICEF (2017) and World Bank Group (2018). It was also reported that the modes of assessments and teaching methods viz., Discussion, Demonstration and Collaboration were appropriate for achieving instructional objectives. Therefore, it can be said that this course is appropriate and suited for the BTE curriculum in Ghana but the contents require some modifications to prepare competent teachers. Suggestions that emerged for further improvement of this course are; a balance should be established between a conceptual understanding of Algebra, method of teaching and problem-solving skills, the methodology of teaching Mathematics should be incorporated in FDC 222 contents to introduce student-teachers to instructional strategies of teaching Algebra, and the reading lists should be modified to provide adequate and relevant reading material as per the contents.

5.3.3.5 Introduction to ICT (GNS 211)

This course was transacted as a core paper for one credit hour. It has seven relevant objectives and appropriate contents for equipping student-teachers with the subject

matter for classroom teaching. However, it was reported that the content weightage between the conceptual understandings of ICT, pedagogy skills was imbalanced. For this reason, most of the basic school candidates who appear for the Basic Education Certificate Examination (BECE) perform abysmally in ICT. Here, the Chief Examiner's report can be referred (WAEC, 2017), stating that most of the basic school candidates who appeared for the BECE in 2017 performed woefully in practical oriented subjects including the ICT. Even though appropriate teaching methods viz., Demonstration, Brainstorming, Project, and Discussion were used to transact the contents, the one credit hour and assessment procedure were not appropriate in achieving instructional objectives. Therefore, some modifications are required in this course on the credit hour, assessment procedures, and pedagogy to prepare content teachers. Suggestions that emerged for further improvement of this course are; methodology of teaching ICT should be incorporated in the contents to equip the student-teachers with pedagogical skills, and one credit hour should be increased to two.

5.3.3.6 Integrated Science (FDC 224)

This course having two credit and comprising of three Science areas viz., Biology, Chemistry, and Physics.

For Biology subject, it was reported for having appropriate contents in equipping student-teachers with knowledge of dentition in humans, the process of digestion of food substances and methods of controlling mosquitoes within a suitable period of three weeks. These were appropriate subject matter suited for teaching at the basic schools. However, it was observed that the course objectives were not set by the curriculum designers and proper objectives need to be formulated. Also, assessment procedures and the teaching methods viz., Lecture, Demonstration, and Discussion were not appropriate for drawing a balance between theoretical learning and practicality and should be addressed to produce effective teachers.

In the Chemistry, it was reported that course objectives were not set to determine the learning outcomes with modes of assessments, and the teaching methods like Lecture, not appropriate for preparing student-teachers. This means the teaching methods did not encourage investigation, project, and fieldwork. This supports the finding of Aikenhead (1994) and Jessani (2015). However, the contents were reported as

appropriate for equipping student-teachers with the subject matter in the area of Acids, Alkali, Salt and Bases but the practice was not given equal weightage. This was largely attributed to facilities problems in the BTE colleges and must be re-looked.

In the Physics subject, it was reported that course objectives were not set by the curriculum designers to determine the learning outcomes. However, the contents were appropriate for equipping student-teachers with subject knowledge in the area of energy, and electricity. These contents were transacted within an appropriate period of five weeks by using appropriate teaching methods and assessment procedures.

5.3.3.7 Agriculture Science (AGN 228A)

This course having one credit is transacted as an optional paper, having relevant course objectives and contents for equipping student-teachers with subject knowledge to be familiar with the contributions of agriculture to the socio-economic development of Ghana. However, one credit hour, teaching methods and assessment procedures were not appropriate and should be modified.

5.3.3.8 Music and Dance (PRA 211)

This course was transacted as an optional course. It was reported that the course objectives were relevant as per the contents. The one credit hour, teaching methods viz., Demonstration, Discussion, and Brainstorming, and contents were appropriate for preparing student-teachers. The contents focused on principles and methods of teaching the Performing Arts to equip student-teachers with knowledge and skills to compose simple rhythms, melodies and movements for pupils. However, the modes of assessments (formative and summative) did not emphasize on practical skills and written notations were not given equal weightage. This was not appropriate as most of the student-teachers were not conversant with the notation symbols. This is supported by the finding of Butcher (1970) who reported that teaching Music in Africa was constrained by inadequately written notations. This suggests that practice was not given equal weightage and must be relooked if the effective teacher must be produced. Suggestions that emerged for further improvement of this course are; topics such as rhythmic notation and movement notation are essential for every student-teacher and must be incorporated in the core paper for all, and one credit hour of PRA

211 should be increased to three to provide adequate contact hours for practising skills.

5.3.3.9 Physical Education (PRA 212)

It was reported that the PRA 212 was having three relevant course objectives, appropriate contents for equipping student-teachers with knowledge and skills about human development, physical performance, and some movement skills involved in track and field athletics, soccer and netball. These contents were transacted by using appropriate assessment procedure and teaching methods viz., Discussion, Demonstration, and Role-play. These teaching methods would encourage participation and interaction between the teacher and the learners. Verma (2016), posits that effective teachers need to employ instructional strategies that can involve the learner thereby creating an opportunity for them to practise tasks and skills among themselves. However, it was reported that one credit hour was inadequate and not appropriate as per the contents. Therefore, it can be concluded that this course has relevant objectives, appropriate contents, teaching methods, assessment procedure and suitable for BTE curriculum in Ghana. Suggestions that emerged for further improvement of this course are; the external assessment should involve practical sections so that student-teachers can show their practical skills in the field, the one-credit hour should be increased to three for adequate contact hours, and Aerobic activities such as swimming, cycling, jogging and running must be incorporated to ensure individual differences in the PRA 212 classroom.

5.3.3.10 Sewing (FVH 211)

In this semester, FVH 211 was transacted as an optional course. It was having one credit hour and seven-course objectives which were found as inappropriate and irrelevant as per the contents. This was because most of the course objectives were not feasible due to facility problems at the BTE colleges. However, it was found that the contents were appropriate for exposing student-teachers to basic tools, equipment and materials (textile fibres and fabrics) used for sewing with special emphasis on the sewing machine. And most of the contents were appropriate in terms of helping student-teachers to acquire subject knowledge. For example contents about taking body measurement with the right tool, types of collars, sleeves and pockets were discussed in the classroom for conceptual understanding. These contents were transacted by using appropriate teaching methods like Demonstration on the

chalkboard, and Discussion which was reported as appropriate for achieving instructional objectives. One would have expected that more practical lessons were given for student-teacher to have the first-hand experience in sewing. But this was not observed in BTE colleges. For this reason, most of the student-teachers could not demonstrate skills in finishing some edges on garments and articles with appropriate 'finishes'. This suggests that the practice was not given due weightage. Such finding was found by Vidergor, et al (2018) and Mbagha et al (2018). To establish a balance between theory and practical skills, Broad (2013) asserted that it is essential for tutors to employ technology, Peer-observation and Collaboration methods in the classrooms. These methods will equip student-teachers with problem-solving skills to be effective. Therefore it can be said that contents, assessment procedures, teaching methods are appropriate for transacting this course but the one credit hour, and the course objectives should be modified to produce effective teachers. Suggestions that emerged for further improvement of this course are; the one-credit hour should be increased to three for adequate coverage of contents and to use modern technology such as the multi-media to teach FVH 211 contents and equip student-teachers with desirable skills as per the changing occurrences in the global economy.

5.3.3.11 Literature in English (FDC 229A)

It was found that this course has one credit hour which was appropriate as per the contents. The course objectives were irrelevant because most of the objectives were not achievable. It was found that oral literature was not taught, a lesson on the most of the poems had complex diction and blank verses and making it difficult for student-teachers who did not have a background in literature to appreciate it in a limited course duration (one hour per week). However, the contents were appropriate for broadening the horizons and reasoning skills of student-teachers. The themes in Narrative poetry (ballad, lyrical) and Dramatic poetry were essential and appropriate for student-teachers. For instance, themes such as social criticism, colonialism and independence and war and peace were relevant to contemporary situations and generated student-teachers' responses. This contradicts the finding of Pryor et al (2012). These authors delimited their study to the English language but did not collect data about literature in English. Therefore, their finding of the general English teachers who also teach Literature cannot be regarded. It was further reported that this course was transacted by using appropriate teaching methods, modes of

assessments, and one credit hour. Therefore, it can be said that this course is appropriate for BTE curriculum and relevant for preparing prospective teachers. Suggestions that emerged for further improvement of this course are; genres of literature such as prose and drama should be incorporated for student-teachers to have further studies in Literature in English. Also, there is a need to incorporate methods of teaching literature to enhance pedagogical skills, and provision of reading material particularly the commentary books by the BTE colleges, on the selected poems for better understanding of poems.

5.3.3.12 Ghanaian Language and Culture (FDC 213)

This course has one credit hour and found as inappropriate to realize the objective of the course. It was found from the data that the objective, contents, methods of teaching, and evaluation process were appropriate. But Kidwell (2019) found otherwise in a foreign country in analyzing teacher education curriculum. But as the study was conducted in a foreign country, the finding can not be taken as such to judge this study. Therefore, it can be concluded that this course is appropriate and suitable for the BTE curriculum. However, to further improve it, certain suggestions were provided for modification. These suggestions are; the reading list must be upgraded to encourage extensive reading, the contents of FDC 213 should be written in the various Ghanaian languages as certain vital information cannot be translated properly, and the use of tape recorder and other multimedia tools like videos should be encouraged in teaching phonology.

5.3.4 Fourth-Semester

Under this semester, eleven courses were transacted. The courses and their respective course codes and credit hours are presented in table-4.130. The discussions about the findings in these courses are presented as follows.

5.3.4.1 English Language Methodology (FDC 211)

It was found that this course has four relevant objectives, appropriate contents for equipping student-teachers with knowledge and skills in the basic curriculum materials, methods and strategies used in the teaching of English at the basic level. The contents were transacted by using appropriate teaching methods viz., Brainstorming, Grammar Translation, Storytelling, and Discussion, with appropriate assessment procedures and two credit hours. This means the selection of teaching

methods in this course was based on the needs of the student-teachers. And having studied the contents and some essential features of the basic school English syllabus, prospective teachers are likely to meet standards and be effective teachers. But Adjei (2015) studied subordination errors in students' writings in Ghana and found otherwise. Maybe, this author restricted his study to the Grammar aspect of the English language but not the methodology of teaching. Therefore, this course is appropriate for preparing effective teachers in Ghana. Suggestions that emerged for further improvement of this course are; student-teachers should be taught how to use computer applications for learning grammar in the classroom, and teaching English as Second Language' should be incorporated in FDC 211 to prepare effective student-teachers.

5.3.4.2 Trends in Education & School Management (EPS 222)

It was found that EPS 222 has four relevant objectives, the contents, the methodology of teaching, and evaluation followed were appropriate. This is supported by the finding of Suaka and Kuranchie (2018). But the finding of Donkor (2015) is in disagreement as he conceptualized that management is done by GES and teachers and headteachers do not need much of the knowledge and skills of school management. Therefore, it can be concluded that this course is suited for the BTE curriculum in Ghana for preparing effective teachers. To further improve it, some suggestions were given for modification. Suggestions that emerged for further improvement of this course are; there is a need to incorporate time management in this course to help student-teachers in managing their instructional time. There is a need to incorporate artificial intelligence in educational management and incorporate the concept of school supervision to expose student-teachers to the need for effective supervision in the teaching fraternity.

5.3.4.3 Methods of Teaching Basic School Mathematics (PFC 222)

In this course, the objectives and contents were found as relevant and appropriate for exposing student-teachers to investigation with numbers, integers, rational numbers, and measurement, teaching geometric concepts, geometric construction and number plane. These contents were transacted by using appropriate two credit hours. The assessment procedures and teaching methods were found as appropriate. This contradicts the findings of Enu et al (2015). The authors collected data from only fifty teacher trainees and found that the majority (88%) of the tutors used lecture method

for teaching Mathematics in the colleges. Perhaps their sample size was not appropriate for drawing a general conclusion. Therefore, it can be concluded that this course is appropriate for preparing prospective teachers and suitable for the BTE curriculum. Suggestions that emerged for further improvement of this course are; there is a need to reinforce technology integration in this course to prepare teachers who can use ICT for teaching and learning of Mathematics.

5.3.4.4 Methods of Teaching Social Studies (PFC 228)

In this course, the four objectives and contents were found as relevant and appropriate for exposing student-teachers to the knowledge and pedagogical skills for teaching Social Studies. It provides an opportunity for students to study the effective use of a variety of didactic tools and processes needed for instruction in Social Studies. Also, the contents were transacted by using appropriate teaching methods viz., Discussion, Brainstorming, Lecture, and Role Play, and appropriate assessment procedures. This suggests that the student-teachers were equipped with the knowledge and pedagogical skills to prepare a lesson plan and use of resources available within and outside the school for effective delivery of lessons in Social Studies. This is supported by the findings of Quashigah et al (2014), and Huedenu and Adibi Maria-Goretti (2015). Therefore, it can be said that this course is appropriate for preparing prospective teachers. Suggestions that emerged for further improvement of this course are; the student-teachers should be allowed to embark of a field trip to places of educational significance for a minimum of at least once every semester to acquire more experience outside the classroom. The two credit hours of the PFC 228 should be increased to three to provide more field experience student-teachers. The tutors of PFC 228 should make good use of the resources persons in the communities to highlight some issues relating to the community. This will expose student-teachers to the role that resource person play towards the attainment of instructional objectives.

5.3.4.5 Introduction to ICT (GNS 221)

This course was transacted as a core paper having one credit hour that was found as inappropriate but having nine relevant objectives. It was also found that the contents were appropriate for providing prospective teachers with content knowledge. However, teaching methods such as Demonstration and Project were not appropriate to the objectives as the BTE colleges ha limited laboratory facilities for conducting

demonstration class. This is supported by the finding of Agyei and Voogt (2011) and Agyei and Douglas (2013) that most of the computers in schools' laboratories were inadequate and some non-functional. This suggests that it would be difficult for prospective teachers to be conversant with technology integration as the practice is not given the due weightage. For this reason, practical skills of student-teachers were not properly featured in the modes of assessments. The type of questions sets encouraged rote memorisation which is not appropriate for prospective teachers. Ayertei, et al (2015) concludes that most of the types of questions used in the assessments of student-teachers did not elicit all-round learning outcomes of the student-teachers and must be given a second look. Therefore, it can be concluded that this course has appropriate objectives, and contents but the one credit hour, assessment procedure and teaching methods were not appropriate and must be modified. Suggestions that emerged for further improvement of this course are; Ultra-modern computer laboratory stocked with computers and its appliances should be built in every BTE colleges to enhance teaching and learning, there is a need to incorporate practical session at the end of semester examination for student-teachers to demonstrate their practical skills in manipulating personal computer, and the one-credit hour of the GNS 221 should be increased to two to provide more hours for engaging student-teachers.

5.3.4.6 Music and Dance (PRA 221)

It was found that PRA 221 has one appropriate credit hour but the two-course objectives were irrelevant. Also, the contents were found as appropriate for exposing student-teachers to the teaching of the Performing Arts. However, the student-teachers reported that contents about written notations were not appropriate as most of them were not conversant with the notation symbols. The teaching methods viz., Demonstration, Discussion, Brainstorming, and Role-Play used by the tutors were appropriate. This is supported by Butcher (1970). Even the Theories of Performing Arts Learning were not appropriate as reported by most of the tutors. They expressed that theories related to Referentialism, Absolutism, and Behaviourism, for instance, did not provide reflections on educational implications. So, it was challenging for most of the prospective teachers to organize events such as poetry recital, drum language, dance drama, sight-reading, choral singing, storytelling at culture festivals. This suggests that theories did not give appropriate reflections on pedagogical skills

and should be relooked. It was further observed that modes of assessments (formative and summative) did not emphasize on practical skills. This means practice was not given equal weightage and must be relooked if the effective teacher must be produced. Therefore, it can be concluded that the one credit hour, contents and teaching methods were appropriate for preparing student-teacher but course objectives and modes of assessment were not appropriate and must be modified to produce competent teachers. Suggestions that emerged for further improvement of this course are; portfolio assessment of student-teachers should be encouraged to show a collection of student-teachers best work over some time, the one-credit hour of the PRA 221 should be increased to two to provide more hours for engaging student-teachers, and the tutors should adopt the Project method of teaching in ensuring that the student-teacher can demonstrate their knowledge and skills gained in practically solving related problems.

5.3.4.7 Physical Education (PRA 222)

In this course, the five objectives and contents were found as relevant and appropriate for equipping student-teachers with knowledge about basic school syllabus and the preparation of the lesson plan. The contents about basic school syllabus, preparation of the lesson plan, psycho-social and sociological issues like drugs, ergogenics, and locus of control in PE and sports, basic movement skills in volleyball, table tennis, and athletics were appropriate for preparing prospective teachers. This was also reported by Waggoner and Veloso (2018). This suggests that the contents were appropriate as per the needs of the student-teachers. Also, it was revealed that teaching methods viz., Discussion, Demonstration, and Role-Play, were most frequently used by tutors to teach this course. These teaching methods were appropriate as the equal opportunity was given to the student-teachers to participate in learning activities. This is supported by the findings of Verma (2016). The modes of assessment were designed in two sections; the first section was about the conceptual understanding in the classroom while the second section was about field activities. This suggests that the modes of assessments were balanced and deemed appropriate for determining the learning outcomes of the prospective teachers. However, one credit hour was not appropriate to contain the contents and should be modified. Therefore, it can be concluded that this course was designed having relevant objectives, appropriate contents, teaching methods, and assessment procedures to

prepare effective teachers. And to further produce competent teachers, the one-credit one must be adjusted. Suggestions that emerged for further improvement of this course are; there is a need to incorporate health education in the areas of safety and accident prevention, physiotherapy and personal hygiene, the one-credit hour should be increased to three to pave way for more hours, and there is a need to incorporate interpersonal and organization skills.

5.3.4.8 Catering (FVH 222)

It was found that the eleven objectives and contents were relevant and appropriate for equipping student-teachers with knowledge and pedagogical skills. The contents were connected to the basic school syllabus and with knowledge of lesson note preparation, student-teachers would be capable of employing appropriate instructional strategies to achieve objectives in the classroom. However, the practice was not given equal weightage as most of the practical concepts viz., mounting of the exhibition, set up and managing Catering Enterprises, and preparation of convenience foods did not experiment at the BTE colleges. This was largely attributed to facilities constrain and should be re-looked. This phenomenon is supported by Asare and Nti (2014), Mbaga et al (2018), and Vidergor, et al (2018). Also, the one credit hour, assessment procedures, and the teaching method like Lecture used were not appropriate for transacting this course and must be modified to produce competent teachers for Ghana. Suggestions that emerged for further improvement of this course are; the one-credit hour should be increased to two to pave way for more hours, local dishes that student-teachers have prior knowledge should be encouraged in this course to enhance the domestication of Ghanaian foods, and the content about exhibition should be offloaded.

5.3.4.9 Literature in English-Drama (FDC 229B)

This course has one appropriate credit hour and appropriate contents for exposing student-teachers to drama (comedy or tragedy). The contents were appropriate in terms of helping student-teacher to differentiate between comedy-drama and tragedy-drama and to appreciate drama piece by using the elements of drama. These contents were transacted by using appropriate teaching methods viz., Brainstorming, Grammar Translation, Storytelling, and Discussion, and assessment procedures. However, it was reported that the four course objectives were irrelevant and pedagogy was not given equal weightage. This was because the methodology of teaching literature was

not incorporated. So, it was difficult for alumni to employ appropriate instructional strategies to achieve objectives. This is supported by Sharon Wolf, et al (2017) who found that most of the newly trained teachers could not apply appropriate pedagogy in their classrooms. This must be relooked to prepare effective teachers for Literature in English. Suggestions that emerged for further improvement of this course are; stage performance should be incorporated into the formative assessment to determine the aesthetic skills of student-teachers, the one-credit hour should be increased to two to pave way for more contact hours, and when selecting the drama books for this course, local writers and foreign writers should have equal weightage.

5.3.4.10 Agriculture Science (AGN 228B)

It was found that the three course objectives and contents were relevant and appropriate for equipping prospective teachers with subject knowledge to teach in the classroom. For instance, the contents about diseases in animals, methods of checking soil erosion, and marketing of agricultural produce were essential. Such finding was also found by Roberts and Dyer (2004). It was further found that one credit hour was not appropriate. About the teaching methods, it was found that Brainstorming, Demonstration, and Project methods were used and a balance between theoretical concepts and practical learning was maintained. But due to lack of college farms Demonstration lessons, Projects and assessment procedures were found inappropriate. Fieldwork was not emphasized due to the lack of farms in the BTE colleges. Such finding was also reported by Vidergor, et al (2018). Lack of farms was a major challenge of transacting Agriculture Science in the colleges and must be redressed to produce effective teachers. Suggestions that emerged for further improvement of this course are; the BTE colleges should collaborate with local Agriculture Extension Department for exchange of resources and expertise, and the one-credit hour should be increased to two to create more contact hours to complete course outline in a semester.

5.3.4.11 Ghanaian Language and Culture (FDC 223)

It was found that this course has three relevant course objectives, appropriate one credit hour and contents for introducing student-teachers to the methodology of teaching Ghanaian language at the basic school. This suggests that student-teachers

were exposed to the primary and J.H.S. syllabi and preparation of lesson plan which equipped them with pedagogical skills for teaching any topics in the basic school syllabus. This is supported by Verma (2016), and Huedenu and Adibi Maria-Goretti (2015). These contents were transacted by using appropriate teaching methods viz., Discussion, Brainstorming, Grammar Translation, and Storytelling and appropriate assessment procedures were followed. Therefore, it can be said that this course is appropriate for preparing competent teachers suited for the BTE curriculum in Ghana. Suggestions that emerged for further improvement of this course are; strategies for designing instructional material should be incorporated for teaching language, the course outline and all learning material associated with this course should be written in the various Ghanaian languages to make instructions concrete for better understanding, and the reading list of this course should be updated by adding adequate reading material to encourage extensive reading.

5.3.5 Fifth-Semester

The fifth-semester courses in BTE curriculum comprise six mandatory subjects. The courses and their respective course codes and credit hours are presented in table-4.167. The discussion about the findings in these courses are presented as follows.

5.3.5.1 English Language Studies (FDC 311)

This course has six course objectives and three credit hours which were found relevant appropriate. Also, the contents were found appropriate for equipping student-teachers with further grammar, comprehension and writing. This is because all the student-teachers studied most of the areas covered in this course (writing skills, word classes, communication skills and literature) which were connected to the basic school English Language syllabus. But WAEC (2017), and Adjei (2015) found otherwise. Maybe, their studies were delimited to the performance of basic school students regarding their communication skill. This cannot be used to judge the teachers' competency. The contents were found as appropriate to equip prospective teachers with needed subject matter and pedagogy to teach the English language at the basic schools. Also, the contents were transacted by using appropriate assessment procedures, and teaching methods viz., Brainstorming, Grammar Translation, Storytelling, and Discussion to achieve instructional objectives. This suggests that FDC 311 is appropriate for preparing prospective teachers and should be retained as such. However, suggestions that emerged for further improvement of this course are; debating clubs should be allowed in the colleges to provide an open platform for

student-teachers to develop their communication and argumentation skills. There is a need to incorporate the methodology of teaching articles and rejoinders to equip student-teachers with further knowledge and skills to be effective in the classroom. Also, adequate reading material should be made available in the colleges' libraries to encourage extensive reading.

5.3.5.2 Statistics and Probability (FDC 312)

This course has three course objectives and two credit hours which was found relevant and appropriate. The contents were also found appropriate for equipping student-teachers with knowledge and skills for collection, organization, representation, analysis and interpretation of data. These contents were transacted by using appropriate assessment procedures and teaching methods viz., Discussion, Demonstration and Collaboration to achieve instructional objectives. The assessment procedures were also appropriate. But Enu et al (2015) found otherwise. Perhaps, their methodology (50 students as sample size selected from 3 colleges) was not enough to conclude. This suggests that student-teachers have developed pedagogical skills and numerical reasoning through this course to be effective in the teaching fraternity. Therefore, it can be concluded that this course is appropriate for the BTE curriculum in Ghana and should be retained. Suggestions that emerged for further improvement of this course are; student-teachers must be introduced to all categories of data, viz., categorical, discrete, numerical, and continuous to gain enough knowledge in solving statistical problems. Also, the four weeks of instruction in the colleges must be increased to six weeks (three credit hours) for adequate preparation of student-teachers.

5.3.5.2 Introduction to Guidance and Counselling (EPS 311)

This course has four course objectives and two credit hours, that were found as relevant and appropriate. The contents, teaching methods and the assessment procedures were found as appropriate. This is supported by the finding of Kiweewa et al, (2018). However, it was found that most of the student-teachers did not receive practical training on how to deliver guidance services to students. This suggests that teachers' role in providing guidance services to students and parents was not felt while the skills of communication in the counselling process were not experienced by the student-teachers. Therefore, it can be said that the content weightage between theory and practice was not balanced. Such finding was also found by Nkala (2014),

and Goodrich et al., (2014). Therefore, it can be concluded that this course is appropriate for preparing student-teachers but to further improve it, there is a need to re-look at the practical aspect to make it more vibrant. Suggestions that emerged for further improvement of this course are; active counselling unit should be created in colleges to provide a supportive environment for preparing effective student-teachers. The BTE colleges should establish collaboration with other government and local organizations where they can exchange expertise knowledge, professional skills and facilities to achieve targets. And periodic workshops and programs should be made part of the contents to enhance skills and professional development of the prospective school teachers.

5.3.5.3 Assessment in Basic School (EPS 312A)

This course has one credit hour that was found as inappropriate. However, the eight objectives, contents, teaching methods and modes of assessments were found as appropriate for preparing effective teachers. Such finding was also found by Huedenu and Adibi Maria-Goretti (2015). However, it was found in the present study that the contents of the analysis and interpretation of test scores for further teaching were not properly accomplished. For instance, the norm-referenced interpretation and criterion-referenced interpretation were not properly featured in the contents. Therefore, it was a challenging task for most of the prospective teachers to use the norm-referenced test and criterion-referenced test results. Bekoe et al, (2013) asserted that an effective teacher should be capable of diagnosing learners' needs and devising appropriate strategy in dealing with them. In the absence of that prospective teachers will not be able to carry out their roles. Therefore, it can be concluded that this course is appropriate for preparing student-teachers by bringing certain changes as suggested. The changes are; portfolio assessment to learn holistic assessment, and diagnostic test of basic school students. Also, there is a need to increase the number of credit hours from one to two. The contents should be spread across two semesters for in-depth study.

5.3.5.4 Research Methods in Education (EPS 312B)

This course has one credit hour which was found as not appropriate. However, the twelve objectives, contents, teaching methods and modes of assessment were found as appropriate for preparing student-teachers. Such a finding was also reported by Asimeng-Boahene (2004) and (Pooneh et al, 2019). This suggests that action research

was a step in the right direction by helping student-teachers to address problems in an education setting. Therefore, it can be concluded that this course is appropriate for preparing student-teachers and should be retained. Suggestions that emerged for further improvement of this course are; perspective on external project supervision should be incorporated in this course to improve the quality of research conducted by student-teachers in schools. This course should be taught in two semesters preferably semester four and semester five for more emphasis on concepts and their applications. Pertinent books on research methodology in education should be purchased and kept in the libraries for reference purposes.

5.3.5.5 On-Campus Teaching Practice (EPS 313)

EPS 313 has three credit hours which were found as appropriate for preparing student-teachers. But there is no mention of the objectives of this course. The activities in this course were found as appropriate for helping student-teachers to demonstrate model lessons for improvement of their teaching skills. As per the methodology of the paper, each of the second year student-teachers taught their peers a minimum of two lessons while their tutors (supervisors) were observing and providing feedback for improvement. Before the presentation of the lesson, the supervisors check the lesson plan on how activities, TLM, and evaluation were planned to achieve instructional objectives. After every session, both the supervisor and student-teachers discussed the feedbacks and highlighted some strengths and weaknesses of the lesson for improvement. The marks obtained by each student-teacher were used for grading at the end of the semester. It was reported that two tutors were supposed to observe one lesson at a given time. But in most of the colleges, one tutor was found observing one lesson at a time. For the occurrence of this phenomenon, it was found most of the colleges were lacking tutors while some of them were not motivated to take part in this session. Such finding was also found by Abudu and Donkor (2014). As there were no instructional objectives to regulate the operation of this paper, it was transacted as per the discretion of the management of every BTE college. This is supported by the finding of Yeboah and Kwaah (2018). Also, the three months duration of this course was inappropriate. Student-teachers were allowed to plan two model lessons on any topic from any subject of choice. But the two lessons were not sufficient to determine the teaching competencies of student-teachers. This is supported by the finding of Bonneyi et al (2018). Therefore, it can be said that although this course is appropriate for the BTE curriculum in Ghana, to

further improvement was indicated by curriculum experts like; the on-campus teaching practice should be conducted in every semester for all the year groups. This would adequately prepare student-teacher in pedagogical skills to be effective in the classroom.

5.3.6 Sixth-Semester

This semester has two mandatory courses for a total of 6 credit hours. The courses and their respective course codes and credit hours are presented in table-4.186. The discussion about the findings in these courses are presented as follows.

5.3.6.1 Out-Program Teaching Practice (EPS 321)

This course has three credit hours which were found as appropriate for preparing student-teachers. The activities in this course were appropriate for providing first-hand teaching experience for student-teachers in schools. The duration was not sufficient as student-teachers had to spend some time performing academic activities. It was further found that BTE tutors visit the final year student-teachers in schools (twice monthly) to supervise and assess their lessons and progress of work. It was found that the number of teachers was not appropriate as one supervisor was not enough for judging a student teacher's lesson. This is supported by the finding of Nti-Adarkwah and Ofori (2019), and Rai (1982). Mohamed, et al (2015) also concluded that qualified and experienced mentors in schools were required to make the Out-Program teaching practice effective. It was further found that the final year student-teachers were exposed to other duties and responsibilities such as class management, student behaviour, and school-community relationship in this period and are appropriate. This was also reported by Bukari and Kuyini (2015). However, some missing and inappropriate components of this course that were; course objectives were not set by the curriculum designers to regulate the operation of the activities, and interferences of other activities like the writing of project work, and final examination by student-teachers in other papers (Guidance and Counselling, Statistics and probability). Such finding was also found by Adentwi and Baafi-Frimpong (2010). Therefore, it can be said that the Out-Program teaching practice objectives be formulated, separate roles should be spelt out for mentors, student-teachers, tutors and head schools in this stage to achieve the goal. Also, Head of schools should be trained

to supervise and assess student-teachers at this stage to assist tutors from abandoning lessons in colleges because of supervision.

5.3.6.2 Project Work (EPS 321)

EPS 321 has three credit hours which were found appropriate for preparing student-teachers. Even though course objectives were not stated by the curriculum designers to determine learning outcomes, the course activities and assessment procedures were appropriate. To assess the Project Work, the supervisors make sure that the student-teachers completed the five chapters of their project report being rated by the Institute of Education, the UCC (2014). Therefore, it can be concluded that this course is appropriate and suited for preparing teachers. Gordon Clark et al., (2014) proposed that evaluation of Dissertation, assessment should involve students, the staff and external assessor from the community to ensure holistic assessment. To further strengthen this program, suggestions were provided for modification which includes; the duration (sixteen weeks) of writing project work should be extended to one year for student-teachers to collect adequate data. Also, assessment of dissertations should involve viva-voce to develop the confidence of the student-teachers.

5.4. EVALUATION OF CO-CURRICULAR AND EXTRA-CURRICULAR ACTIVITIES

This section is about the findings and discussion related to the evaluation of Co-curricular and Extra-curricular activities of BTE curriculum in Ghana. The details are presented as follows.

5.4.1 Co-Curricular Activities

It was found that many activities were carried out to complement the understanding of student-teachers' learning in the BTE colleges. Some of the activities that were found in the present study include; 1) Quiz competition, 2) Debate competition, 3) Independence Day celebration, 4) Field trip, 5) Talent show, and 6) Student Representative Council (SRC) meetings. These activities were found appropriate for the holistic development of the student-teachers. Also, it was found that most of the student-teachers were showing interest in participating in these activities. But it was revealed that due to a lack of motivation from the BTE tutors and management, some student-teachers were shy away from participating in these activities. Such finding was also reported by Iucu and Platis (2012). To encourage student-teachers'

participation, it was suggested that the activities be a part of the regular time table and needs close monitoring. BTE management should plan for some concrete incentives for student-teachers to enhance their participation.

5.4.2 Extra-Curricular Activities

It was found that many activities were organized by BTE colleges to ensure trainees all-round development. The activities that were organized include; 1) Soccer, 2) Volleyball, 3) Athletics, 4) Table tennis, 5) Fitness club, 6) Christians societies and 7) Muslim societies. These activities were found appropriate for all-round development of the student-teachers. This support the finding of Broh, (2002) and Mahoney et al (2003). However, it was reported that in most of the BTE colleges, the activities were limited due to lack of facilities, time and poor supervision. This finding is supported by Manchaa and Ahmada (2016)). To address these challenges suggestions that emerged were; needed sporting kits and ultra-modern sporting facilities should be created/provided in all the BTE colleges to facilitate extra-curricular activities.

5.4.3 Evaluation of Teaching and Learning Facilities

Education facilities are essential for facilitating teaching and learning. The findings that emanated from the present study concerning the facilities are presented as follow;

- a. Lack of infrastructure facilities such as workshops impeded the teaching of most of the practical courses viz., Music and Dance, and Pre-Vocational Skills courses. This supports the finding of Mbagwa et al (2018) which states that the performance of the student-teachers in Science and Technical subjects was poor due to lack of equipped workshops in teacher training colleges. The student-teachers reported that a few types of equipment meant for these courses were kept in dilapidated buildings and consequently depreciated and lose value and usability due to rusting. Therefore, it was challenging for them to have practical lessons. This suggests that many of the student-teachers would not be capable of teaching practical subjects at the basic level.
- b. It was found that libraries in the BTE colleges were facing challenges that need immediate attention. Some identified challenges about the libraries include lack of space, archaic and irrelevant books and lack of E-library facilities which are the need of the 21st-century student-teachers. This supports the findings of Ayaaba (2013) and Filson and Agyekum (2014) which state that Colleges of

education in Ghana were lacking functional libraries in terms of modern books, qualified librarians and e-library facilities.

- c. It was found that there were laboratories for teaching and learning of the following stream of Science courses; Chemistry, Physics, Biology, and ICT. But the laboratories were lacking some basic apparatus such as safety equipment like hand gloves, chemicals, test tubes, and computers (for ICT). The computers were not sufficient in the laboratories as per the class size of 50 student-teachers, not airy and causing discomfort for student-teachers. In light of this finding, other studies conducted by Agyei and Douglas (2013) and Agyei and Voogt (2011) can be referred to. These authors reported that there was inadequate ICT infrastructure such as computers and internet facilities for effective teaching and learning at the Colleges of Education.
- d. It was found that student-teachers were provided with course materials such as storybooks, syllabi and textbooks in BTE colleges to facilitate learning. These materials were appropriate in terms of professional development.

5.5. Findings of the Study

The findings that emerged from the present study are presented as follows.

1. The BTE curriculum objective-I was irrelevant for producing generalist teachers who are capable of teaching all subjects at the primary and Junior High School (JHS) levels. The suggestion made to change the objective-I was;
 - i. To produce generalist teachers to teach at the primary school
 - ii. To produce specialists teachers to teach at the JHS level
2. The BTE curriculum objective-II was relevant for producing specialist teachers who are capable of teaching specific subjects such as Mathematics, Science and Technical at the Junior High School (JHS).
3. The BTE curriculum objective-III was relevant for producing teachers who were having a clear grasp of intended outcomes of their teaching activities, monitoring skills, diagnosing skills, and appropriately providing equal opportunity to all pupils.
4. The BTE curriculum objective-IV was relevant for promoting the close-working relationship between Colleges of Education and local schools through the “Out”

component of the programme but the curriculum experts reported that it should not stand as an objective as it is a means for teacher preparation.

5. The course objectives, contents, teaching methodology and two credit hours of FDC 111 were relevant and appropriate while assessments of learning outcomes of student-teachers did not emphasize on communication skills. The suggestions that emerged for modification are;
 - i. The methodology of teaching English and technology integration should be incorporated to develop pedagogical skills for teaching speech sound.
 - ii. The number of credit hours should be increased from two to three.
6. The course objectives, contents, teaching methods, and two credit hours of FDC 112 were relevant and appropriate for preparing student-teachers. However, formative assessment was inappropriate as collaborative activities were not incorporated to promote further learning opportunities amongst student-teachers. The suggestion for modifications are;
 - i. There should be a linkage between BTE Mathematics and the basic school Mathematics.
 - ii. Topics such as ‘logarithms should be offloaded.
 - iii. Some topics such as ‘money and taxes’ and ‘factors and angles’ should be incorporated.
 - iv. Incorporate contents about the methodology of teaching Mathematics.
 - v. Incorporate contents on the preparation of Teaching and Learning Material.
7. The course objectives of FDC 113 were not relevant as per the content weightage. However, the contents, teaching methods, assessment procedure and one credit hour were appropriate for equipping student-teachers with content knowledge and pedagogical skills. The suggestions for modification are;
 - i. The methodology of teaching Ghanaian language & Culture should be incorporated to equip student-teachers with pedagogical skills.
 - ii. The reading list should be modified to encourage extensive reading.
 - iii. The contents should be written in the Ghanaian languages to ensure clarity and better understanding.
 - iv. There should be differences in the contents of the Ghanaian languages as culture and tradition differ.
8. The course objectives, contents, teaching methods three weeks duration of Agriculture subject of FDC 114 were relevant and appropriate. However, the

assessment procedure and practicality was not appropriate due to the lack of college farms. Suggestions for modification are;

- i. Farms should be constructed in the BTE colleges to help student-teachers study this course as a vocational skill subject to be effective and self-sufficient.
 - ii. Course duration should be increased from 3 weeks to 5 weeks and ensure that methodology of teaching is incorporated to equip student-teachers with pedagogical skills.
9. The four-course objectives, contents, three week duration of Biology subject of FDC 114 were appropriate. However, the lecture teaching method and unequipped laboratory were not appropriate and need to be relooked. Suggestions for modification are;
- i. Biology tutors should use multi-media material such as videos and games to make teaching and learning of Biology concrete.
 - ii. The contents on the methodology of teaching Biology should be incorporated in the contents as well as update of the reading list is necessary is critical.
10. The course was not having the objectives designed by curriculum designers, and pedagogy of Chemistry subject of FDC 114 was not given equal weightage. However, the content, two weeks duration, teaching methods and modes of assessments were appropriate. Suggestions for modification are;
- i. The Chemistry should be provided with laboratory equipment to expose student-teacher to laboratory experience.
 - ii. The method of teaching chemistry should be taught to the student-teachers in this course to make them effective chemistry teachers.
 - iii. The BTE tutors should adopt projects methods of teaching Chemistry to equip student-teachers with practical teaching skills.
11. In the objectives aspect of FDC 114, course objective was not found and the pedagogy was not given equal weightage. However, the course content, teaching methods and modes of assessments were appropriate. Suggestions for modification are;
- i. The contents should be incorporated with the concept of pedagogic reasoning, the methodology of teaching, and improvisation of teaching aids.
 - ii. The reading list of the course should be upgraded to encourage extensive reading.

- iii. The content weightage between theory and practice of this course should be balanced.
12. The course objectives, contents, teaching methods, reading list, assessment procedure of FDC 119 were relevant and appropriate. However, one credit hour was not appropriate and must be relooked. Suggestions for modification are;
- i. The theories should provide precise information about the self-initiative skills of students and how children learn.
 - ii. There should be contents on religious leadership and practices to educate the student-teachers about the Ghanaian ways of worship and moral values of the various ethnic groups in Ghana.
 - iii. There should be contents on moral values of the various ethnic groups in Ghana to make the prospective teachers well vexed in their moral practices.
13. The course objectives, contents, teaching methods, assessment procedures of FDC 118 were relevant and appropriate. Suggestions for modification are;
- i. The contents should be incorporated with the methodology of teaching social studies to develop pedagogical skills.
 - ii. The reading list must be upgraded to provide adequate books to encourage extensive reading.
 - iii. The contents should be redesigned to incorporate topics from other social science subjects like History, Economics, Sociology, Politics etc.
 - iv. A topic, such as ‘uses of land,’ should be offloaded as it can be taught in Agriculture Science.
 - v. Libraries in the colleges should be furnished with modern books that have relevant information about the contents.
14. The course objectives, one credit hour and reading list of FVA 111 were irrelevant and inappropriate. However, the contents and assessment procedures were appropriate. Suggestions for modification are;
- i. There should be comprehensive contents of printmaking for prospective teachers to be able to guide students to create a paper painting.
 - ii. The mode of internal assessment should take the form of a project to allow student-teacher to do more of creative work.
 - iii. The one-credit hour should be increased to three.
 - iv. The BTE colleges should establish a market for the art products to be sold and inaugurate Art days for student-teachers to showcase their aesthetics skills.

15. The course objectives, contents, teaching methods, two credit hours of EPS 111 were relevant and appropriate. However, contents did not teach in-depth subject matter about the philosophical and sociological principles underlying current educational practices and curriculum design and must be re-looked. Suggestions for modification are;
- i. There is a need to incorporate content about teacher education in Ghana, and policies of basic teacher education.
 - ii. The content of Philosophy and Sociology in this course should be disintegrated.
16. The course objectives, contents, teaching methods, modes of assessments and two credit hours of FDC 121 were relevant and appropriate. Suggestions for modification are;
- i. The contents should be incorporated with the methodology of teaching English language and literature genres.
 - ii. Recommended books should be made available in the libraries to encourage extensive reading.
17. The three-course objectives, contents, teaching methods, modes of assessment and two credit hours of FDC 122 were relevant and appropriate. However, there was less emphasis on the use of ICT and calculators in solving problems on Geometry and Trigonometry and must be re-looked. Suggestions for modification are;
- i. The contents should be incorporated with technology integration strategies to enhance teaching and learning.
 - ii. There is a need to incorporate contents on TLM construction to differential instructions and reinforce learning skills in achieving instructional objectives.
 - iii. More contents on teaching methods and the use of games to stimulate students' interest in the classroom.
18. The course objectives of FDC 123 were not relevant. However, the contents, teaching methods, assessment procedures, and one-credit hour were appropriate. Suggestions for modification are;
- i. The contents should be designed in literary canon form. This means student-teacher must be introduced to the background of literature from a Ghanaian perspective.
 - ii. The methodology of teaching literature should be incorporated in FDC 123 contents.

- iii. The reading list should include commentary books to help explain some controversial poems and drama stories.
 - iv. Student-teachers should be made to perform (Drama, and Role Play) the stories and the poems they have been reading to make learning real.
 - v. Student-teachers should be allowed to choose literature books of their interest from a list of recommended books.
19. About the Agriculture Science subject of FDC 124, the course objectives were irrelevant. However, the content, teaching methods, modes of assessment and three weeks duration were appropriate. Suggestions for further modification are;
- i. Provision should be made for student-teachers to be engaged in practical agriculture activities on farms.
 - ii. Management of various BTE colleges should establish a collaboration between the colleges and local department of agriculture in exchange for expertise and facilities.
 - iii. There is a need to incorporate the methodology of teaching this subject and content about ICT software on-farm management.
 - iv. Student-teachers should be allowed to do attachment in the local Agriculture Department during vacations to gain practical experience.
20. About the Biology subject of FDC 124, the three-course objectives, assessment procedures and two weeks duration were irrelevant and inappropriate. However, the contents were appropriate in terms of the subject matter. Suggestions for further modification are;
- i. There is a need to incorporate the methodology of teaching Biology to equip student-teachers with pedagogy.
 - ii. The two weeks of course duration should be increased to 5 weeks.
 - iii. The reading list should be updated to promote extensive reading.
 - iv. To develop practical skills and experience of student-teachers in animal anatomy, dissecting of mammals in the laboratories should be promoted in these contents.
 - v. The use of multimedia tools such as digital content and video for the teaching of Biology should be encouraged to stimulate creativity among student-teachers.
21. About the Chemistry subject of FDC 124, course objectives were not stated by the curriculum designers. Whilst teaching methods, two weeks of duration, and

assessment procedure were not appropriate, the contents were appropriate for exposing student-teachers to the concepts of compounds and mixtures. Suggestions for further modification are;

- i. The reading list should be improved to stimulate extensive reading.
 - ii. The Chemistry laboratories in BTE colleges should be renovated and furnished with equipment to facilitate teaching and learning.
 - iii. The general objectives should be stated in the curriculum to provide proper planning and organization of chemistry lessons.
22. The Physics subject of FDC 124 did not have the course objectives. However, the contents, the teaching methods, and the three weeks of the duration of this course were appropriate but modes of assessments were not appropriate. Suggestions for further modification are;
- i. Adequate books related to the contents of this course should be provided in the BTE colleges to enhance teaching and learning.
 - ii. The contents should be redesigned to provide student-teachers with strong practical experience in Physics.
 - iii. The methodology of teaching Physics should be incorporated to equip student-teachers with pedagogical skills.
23. The course objectives, contents, teaching methods and modes of assessment of FDC 128 were relevant and appropriate. However, one credit hour was not appropriate to match the contents. Suggestions for further modification are;
- i. A field trip should be encouraged for a minimum of once every semester for student-teachers to gain new experiences and exposure about the environment.
 - ii. Adequate contents of lesson planning should be incorporated into the contents to develop confidence in student-teachers to achieve a goal.
 - iii. There is a need to incorporate in these contents (FDC 128) with the use of reference material such as the globe and a map to find critical information about geographical places for learning purposes.
 - iv. The one-credit hours should be increased to two to commensurate loaded contents.
24. The course objectives one credit hour of PRA 121 were irrelevant and inappropriate but the contents, teaching methods, and assessment procedures were appropriate. Suggestions for further modification are;
- i. There is a need for detailed content on composition and performance.

- ii. There should be contents on the methodology of teaching PRA 121 to equip the student-teachers with pedagogical skills.
 - iii. Performance time should be created on the time table to promote the practice.
 - iv. The student-teachers should be trained to critique ready-made Music and Dance to develop their senses of judgment.
 - v. The colleges should purchase sufficient musical instruments to facilitate teaching and learning of this course.
25. The course objectives, contents, teaching methods, assessment procedure of PRA 122 were relevant and appropriate. However, one credit hour was not appropriate and pedagogy was not given due weightage, and there was a lack of facilities like gym, swimming pools and time for effective organization of physical activities. Suggestions for further modification are;
- i. There is a need to balance content weightage between theoretical knowledge and practical skills.
 - ii. There is a need to incorporate the methodology of teaching Physical Education in basic schools to equip student-teachers with pedagogical skills.
 - iii. The contents should be integrated with other disciplines like Science and HIV/AIDS Education for student-teachers to acquire multiple skills.
 - iv. The BTE colleges should provide facilities such as gym, swimming pools, field stadium, indoors arena that are critical for physical fitness.
 - v. The colleges should collaborate with the local sporting clubs to exchange expert knowledge and facilities.
26. The course objectives, content, teaching methods, assessment procedure and one credit hour of GNS 121 were relevant and appropriate. Suggestions for further modification are;
- i. The BTE colleges should establish a collaboration with HIV/AIDS agencies for resource persons.
 - ii. The methodology of teaching HIV/AIDS should be incorporated in these contents.
 - iii. This course should be fused into all the BTE course to offload the BTE curriculum.
 - iv. The contents should be extended to cover two semesters to be able to complete large content successfully.

- v. There is need for BTE Colleges to form HIV/AIDS awareness clubs which could be used to sensitize the communities and create their awareness against the virus.
 - vi. The course should be merged with the Physical Education where student-teachers receive optimum training on healthy lifestyle, social integration and physical fitness.
27. The course contents and teaching methods of FVH 122 were appropriate while the objectives, one credit hour, and assessment procedures were irrelevant and inappropriate. Suggestions for further modification are;
- i. There is a need for comprehensive contents on first aid in the kitchen.
 - ii. The mode of external assessment should be revised to allow student-teacher to experiment with their catering skills in a modern kitchen.
 - iii. The one-credit hour should be increased to three to provide adequate contact hours. An updated reading list would give modern and useful information to facilitate teaching and learning of Catering.
 - iv. The BTE colleges should collaborate with local Vocational Institutions for exchange of resources and ideas.
 - v. The opportunity should be granted to allow student-teachers to prepare African dishes regularly, once every week, to sharpen their catering skills.
28. The course objectives, contents, teaching methods, assessment procedure, and two credits of EPS 211 were relevant and appropriate. Suggestions for further modification are;
- i. Concept of professional development of teachers, interactive session and effective teaching, and in-service training should be incorporated in these contents for the professional development of teachers.
 - ii. The reading list must be updated so that adequate books that are relevant to this course be made available on the reading list to support extensive reading.
29. The course objectives, contents about handling special needs children in the regular classroom, the lecture teaching method of EPS 221 were irrelevant and not appropriate. But the two credit hours and modes of assessments were appropriate. Suggestions for further modification are;
- i. A separate curriculum should be designed to prepare student-teacher capable of teaching the individual with special needs.

- ii. Concept of behavioural management should be incorporated in this course to help basic school teachers to manage classrooms effectively.
 - iii. Provision should be made to allow student-teachers to visit special training schools to observe the instructional strategies that teachers in such schools adopt in achieving instructional objectives.
 - iv. The BTE tutors should adopt appropriate methods of teaching special needs children so that they can learn from them.
 - v. The classrooms of the BTE colleges should be renovated to provide support for student-teachers living with disabilities.
30. The course objectives, contents, teaching methods, and modes of assessments of FDC 218 were relevant and appropriate. But one credit one was not appropriate and needs to be upgraded. Suggestions for further modification are;
- i. Concept of recreation and tourism, process developing skills, and international organizations should be incorporated in these contents to produce effective teachers.
 - ii. The reading list should be upgraded to facilitate extensive reading.
 - iii. The one-credit hours should be increased to three to provide ample contact hours.
 - iv. Libraries in the colleges should be furnished with modern books that have relevant information about the contents.
31. The course objectives, contents, teaching methods, and modes of assessments of FDC 222 were relevant and appropriate. However, one credit hour, and contents about patterns in calendar numbers (3x3) and (4x4); 3x3 and the magic square were not appropriate. Suggestions for further modification are;
- i. A balance should be established between a conceptual understanding of algebra, method of teaching and problem-solving skills.
 - ii. The methodology of teaching Mathematics should be incorporated in this course contents to introduce student-teachers to instructional strategies of teaching algebra.
 - iii. Tutors should adopt a flexible grouping of student-teachers in the Mathematics classroom to assist one another.
 - iv. Tutors should give feedbacks of class assignments and indicate weaknesses of student-teachers if any for improvement.

- v. The reading lists should be modified to provide adequate and relevant reading material as per the contents.
32. The objectives, contents, and teaching methods of GNS 211 were relevant and appropriate. However, one credit hour and assessment procedure were not appropriate. Suggestions for further modification are;
- i. There should be adequate content on technology integration, and professional development training to broaden knowledge of student-teachers.
 - ii. The policy-makers should allow student-teachers to carry their mobile phones, tablets and laptops to the classroom during instructions to facilitate learning.
 - iii. The BTE colleges should adhere to maintenance culture to ensure the working condition of computers, internet facilities and other appliances.
 - iv. The BTE colleges should procure more computers, Wi-Fi facilities and power plants to ensure a constant supply of electricity at the computer laboratories.
 - v. The methodology of teaching ICT should be incorporated in the contents to equip the student-teachers with pedagogical skills.
 - vi. One credit hour should be increased to two.
33. About the Biology subject of FDC 224, there were no course objectives. As the contents, three weeks duration were found appropriate, modes of assessments and the lecture teaching method were not appropriate. Suggestions for further modification are;
- i. Third-semester Biology should be made optional for specialization by student-teachers.
 - ii. Assessment should involve an experiment in the laboratory to test student-teachers practical skills.
 - iii. Experts should be invited from health service to share expert knowledge on topics such as dentition in human and methods of controlling the mosquitoes.
 - iv. The methodology of teaching Biology should be incorporated in these contents to equip student-teachers with pedagogical skills.
 - v. The reading list should be modified and include more accessible books to encourage broad reading.
34. About Chemistry subject of FDC 224, course objectives were not found. As the contents and three-week course duration were appropriate, lecture teaching

method, modes of assessments were found inappropriate. Suggestions for further modification are;

- i. Equal weightage should be established between a conceptual understanding of Chemistry contents and practical work to produce effective teachers.
 - ii. Third-semester Chemistry should be made optional for specialization by student-teachers.
 - iii. The methodology of teaching Chemistry should be incorporated in the contents to develop pedagogical skills.
 - iv. The Chemistry laboratories in BTE colleges should be equipped with required facilities such as equipment, supporting staff and chemicals to help in carrying out scientific investigations.
 - v. Assessment should involve questions testing of practical skills in the Chemistry laboratory. This would help student-teachers to put theory into practice.
 - vi. The total contact hours per week should be increased from 4 to 8 by shifting the one-week coverage to two.
35. About Physics subject of FDC 224, the course objectives were not found. However, the contents, teaching methods, assessment procedures, and five weeks duration were appropriate. Suggestions for further modification are;
- i. The contact hours should be extended to 8 weeks for tutors to complete the course outline successfully.
 - ii. Contents on the methodology of teaching Physics are critical and must be incorporated in these contents.
 - iii. The BTE colleges required sufficient funds to purchase laboratory and science equipment.
 - iv. The Physics tutors in the BTE colleges should resort to using a solderless breadboard to train student-teachers on 'basic electronic'. This suggests that the solderless breadboard is affordable and has standard electronic components, and can easily be connected without difficulties.
 - v. The management of BTE colleges should equip Physics laboratories with equipment, specimen and laboratory assistants to help in practical work.
 - vi. The reading list should be modified so that student-teacher can have access to relevance books to update their knowledge and skills.

36. The course objectives and contents of AGN 228A were relevant and appropriate. However, the lecture teaching method, modes of assessments, and one credit hour were not appropriate. Suggestions for further modification are;
- i. There is a need to incorporate contents on instructional strategies of teaching Agriculture Science to enhance pedagogical skills.
 - ii. The one-credit hour should be increased to three to provide sufficient contact hours to complete course outline.
 - iii. The BTE colleges required sufficient funds to purchase farm equipment and inputs for practical work.
 - iv. The BTE colleges should establish a collaboration with local agriculture extension service to share expertise and facilities.
 - v. Provision should be made for student-teachers visit some Agri-Business sites at least once in every semester to observe management processes.
 - vi. Assessment should involve questions to test practical skills in the field. This would help student-teachers to put their conceptual understanding into practice.
 - vii. There is a need to draw a balance between crop production, Agri-Business and animal production in these contents as all are critical for producing effective prospective agriculture science teachers.
37. The course objectives, contents, teaching methods, modes of assessment and one credit hour of PRA 211 were relevant and appropriate. However, practice is not given due weightage as most student-teacher could not compose simple rhythms, melodies and movements. Suggestions for further modification are;
- i. The BTE colleges need to establish a collaboration with the Department of Music, Dance, Theatre Arts in the Universities and other Higher Education Institutions for exchange of expertise and facilities.
 - ii. The Music and Dance Departments in colleges require sufficient funds to procure teaching and learning aids.
 - iii. Topics such as rhythmic notation and movement notation are essential for every student-teacher and must be incorporated in the core paper for all.
 - iv. One credit hour of PRA 211 should be increased to three to provide adequate contact hours for practising skills.

- v. There is a need to review the Junior High School curriculum and incorporate Music and Dance in BECE to develop the interest of student-teachers and basic school students in studying this subject. Most of the students have lost interest in it because it is non-examinable at the basic schools.
 - vi. The subject tutors should be allowed to prepare comprehensive reading material to cover all the topics in this semester as there are inadequate books in the colleges' library to rely on.
38. The course objectives, contents, teaching methods, assessment procedures, and one credit hour of PRA 212 were relevant and appropriate for preparing effective teachers. Suggestions for further modification are;
- i. The external assessment should involve practical sections so that student-teachers can show their practical skills in the field.
 - ii. The one-credit hour should be increased to three for adequate contact hours.
 - iii. Aerobic activities such as swimming, cycling, jogging and running must be incorporated to ensure individual differences in the PRA 212 classroom.
 - iv. The BTE colleges need to provide facilities such as gyms, dance studio, swimming pool, shooting range and extensive with immediate effect to enhance physical fitness.
39. The course objectives, contents, teaching methods, and assessment procedures of FVH 211 were appropriate. However, one credit hour was not appropriate and practice was not given equal weightage to enhance teaching competencies of student-teachers. Suggestions for further modification are;
- i. The routine practice of sewing in colleges must be encouraged.
 - ii. Student-teachers should be allowed to undertake an internship in sewing industries to develop skills.
 - iii. There is a need to incorporate methods of teaching sewing to enhance pedagogical skills.
 - iv. The one-credit hour should be increased to three for adequate contact hours.
 - v. Modern technology such as the multi-media should be used to teach FVH 211 contents to equip student-teachers with desirable skills as per the changing occurrences in the global economy.

- vi. In every semester, external supervisors should go round the BTE colleges to supervise the practical activities of the student-teachers and give feedback for improvement.
40. The course objectives of FDC 229A were not relevant. However, the course contents, teaching methods, assessment procedures, and one credit hour were appropriate. Suggestions for further modification are;
- i. Other genres of literature such as prose and drama should be incorporated for student-teachers to have further studies in Literature in English.
 - ii. There is a need to incorporate methods of teaching literature to enhance pedagogical skills.
 - iii. Provision of reading material particularly the commentary books by the BTE colleges, on the selected poems for better understanding of poems.
 - iv. Periodic workshop for young writers in the BTE colleges be conducted to develop their creative writing skills.
41. One course objective, contents, teaching methods, and modes of assessments of FDC 213 were relevant and appropriate. However, one credit hour was not appropriate and must be upgraded. Suggestions for further modification are;
- i. There is a need to incorporate detailed content on phonology to enhance the teaching of allophones.
 - ii. This course should be made compulsory for every student-teachers to be equipped in their respective languages.
 - iii. The one-credit hour and the reading list must be upgraded.
 - iv. The contents of FDC 213 should be written in the various Ghanaian languages as certain vital information cannot be translated properly.
 - v. The use of tape recorder and other multimedia tools like videos should be encouraged in teaching phonology. This would enhance the pronunciations of words.
42. The course objectives, contents, teaching methods, modes of assessments and two credit hours of FDC 211 were relevant and appropriate. Suggestions for further modification are;
- i. Student-teachers should be taught how to use computer applications for learning grammar in the classroom.
 - ii. 'Teaching English as Second Language' should be incorporated in this course to prepare effective student-teachers.

43. The course objectives, contents, teaching methods, modes of assessments and two credit hours of EPS 222 were relevant and appropriate. Suggestions for further modification are;
- i. There is a need to incorporate time management, school supervision, and artificial intelligence in educational management.
 - ii. The BTE colleges should establish a practical session on their time table to encourage the practice of skills in school records keeping and other practical administrative duties in schools.
 - iii. Time table preparation needs to be practically taught in the BTE colleges.
44. The objectives, contents, teaching methods, modes of assessments, and two credit hours of PFC 222 were relevant and appropriate for producing competent teachers. However, the content about ICT for teaching and learning Mathematics was inappropriate. This is because computer software applications are not incorporated while the use of calculators, as taught in this course, is not useful at the basic level. Suggestions for further modification are;
- i. The contents were overloaded and must be reduced to ease teaching and learning process of Mathematics.
 - ii. The end of semester examination should be made flexible. Framing of the questions should be precise and related to the activities that take place in the classroom.
 - iii. Technology integration should be reinforced to prepare viable teachers capable of using ICT in teaching and learning of Mathematics.
 - iv. Tutors should be made to teach this course with concrete material so which can facilitate the understanding of concepts.
45. The course objectives, contents, teaching methods, modes of assessments of PFC 228 were relevant and appropriate but one credit hour was not appropriate. Suggestions for further modification are;
- i. Each of the BTE colleges should build a resource room and stock it with resources and material to help in teaching and learning.
 - ii. The student-teachers should be allowed to embark of a field trip to places of educational significance for a minimum once every semester to acquire more experience outside the classroom.

- iii. The two credit hours of this course should be increased to three to provide more contact hours for engaging student-teachers.
 - iv. Tutors should make good use of the resources persons in the communities to clarify some issues.
 - v. Student-teachers should be allowed to engage in debate on issues emanated from this course to hone their skills in using debate as an instructional strategy for teaching social studies at the basic level.
46. The course objectives, contents, and teaching methods of GNS 221 were relevant and appropriate. However, technology integration was not given equal weightage, modes of assessments, and one credit hour was not appropriate. Suggestions for further modification are;
- i. Ultra-modern computer laboratory stocked with computers and its appliances should be built in every BTE colleges to enhance teaching and learning.
 - ii. There is a need to incorporate practical session at the end of semester examination for student-teachers to demonstrate their practical skills in manipulating personal computer.
 - iii. The one-credit hour should be increased to two to provide more contact hours for engaging student-teachers.
 - iv. This course should be transacted as an optional course to allow interested student-teachers to study by choice to advance their knowledge in ICT.
 - v. There is a need to provide training for ICT tutors at the BTE colleges on technology integration. Therefore, the periodic workshop should be organized for them in every semester to revitalize their skill.
47. The course objectives of PRA 221 were not relevant and must be modified. However, the course contents, teaching methods, and one credit hour were were relevant. Suggestions for further modification are;
- i. Portfolio assessment of student-teachers should be encouraged to show a collection of student-teachers best work over some time.
 - ii. Management should allocate adequate funds to the Music and Dance Department in the colleges for purchasing of instruments and organization of events regularly.
 - iii. The one-credit hour should be increased to two to provide more contact hours for engaging student-teachers.

- iv. The tutors should adopt the Project method of teaching in ensuring that the student-teacher can demonstrate their knowledge and skills gained in practically solving related problems.
 - v. The field trip should be encouraged to allow student-teachers to visit museum and travel to observe different cultural festivals for the first-hand experience.
 - vi. The student-teachers should regularly be guided to organize cultural events in their colleges at least, once in every semester to enhance their skills.
 - vii. There is a need to incorporate practical session at the end of semester examination for student-teachers to demonstrate their practical skills.
48. The objectives, contents, teaching methods, modes of assessments of PRA 222 were relevant and appropriate. However, one credit hour was not appropriate and must be upgraded. Suggestions for further modification are;
- i. There is a need to incorporate contents about health education, interpersonal and organization skills.
 - ii. The one-credit hour should be increased to three to pave way for more contact hours.
 - iii. The BTE colleges should provide facilities such as gyms, dance studio, swimming pool, shooting range and extensive pitches within colleges to facilitate teaching and learning.
 - iv. This subject is taught as a core subject at the basic schools to encourage teachers and students to participate fully in studying it.
 - v. During the practice section, the tutors should pay equal attention to every student-teacher as they participate in field activities.
49. The course objectives and the contents of FVH 211 were relevant and appropriate. However, teaching methods, assessment procedure and one credit hour were not appropriate. Suggestions for further modification are;
- i. A modern kitchen should be built in all the BTE colleges for student-teachers to practice the skills learnt.
 - ii. Arts room is needed in all the colleges to enable student-teachers plan and mount their exhibitions.
 - iii. The one-credit hour should be increased to two to pave way for more contact hours.
 - iv. Local dishes that student-teachers have prior knowledge should be encouraged in this course to enhance the domestication of Ghanaian foods.

- v. Content of the exhibition should be offloaded. This is because it is almost impossible for student-teachers to mount an exhibition in the BTE Colleges because of inadequate contact hours and infrastructure facility like art rooms.
 - vi. The catering tutors should invite resource persons to share their expertise with them particularly when setting up and managing Catering enterprises. The factors to consider, technical and financial support are critical.
50. The objectives of FDC 229A were inadequate and irrelevant as the methodology of teaching drama was not addressed. However, the contents, teaching methods, modes of assessment, and one credit hour were appropriate for producing competent teachers. Suggestions for further modification are;
- i. Stage performance should be regularized in the colleges (at least one stage drama in every semester) so that student-teachers would have the opportunity to develop their skills.
 - ii. Stage performance should be incorporated into the formative assessment to determine the aesthetic skills of student-teachers.
 - iii. The one-credit hour should be increased to two to pave way for more contact hours.
 - iv. The methodology of teaching drama at the basic school should be incorporated to equip student-teachers with pedagogical skills.
 - v. Supplementary reading material (commentary books) about the selected drama should be provided to student-teacher for understanding.
 - vi. When selecting the drama books for this course, local writers and foreign writers should have equal weightage.
 - vii. Stage performance should be regularized in the colleges (at least one stage drama in every semester) so that student-teachers would have the opportunity to develop their skills.
51. The objectives, contents, teaching methods of AGN 228B were relevant and appropriate. However, one credit hour and assessment procedures were not appropriate and must be modified. Suggestions for further modification are;
- i. The BTE colleges should collaborate with local Agriculture Extension Department for exchange of resources and expertise.
 - ii. The one-credit hour should be increased to two to create more contact hours to complete course outline in a semester.

- iii. Student-teachers should be allowed to undertake field trip regularly (at least once every semester) to observe the various types of soil erosion and assess the destruction caused by soil erosion.
 - iv. There is a need to construct college farms to provide student-teachers with practical skills in farming to balance theoretical knowledge acquired in the classroom.
 - v. It is essential to incorporate the perspective of fish farming in AGN 228B for student-teachers to be able to educate students on proper fishing methods to improve students' fishing skills since most of them are coming from fishing communities.
52. The objectives, contents, teaching methods, assessment procedure, and one credit hour of FDC 223 were relevant and appropriate for producing effective teachers. Suggestions for further modification are;
- i. The contents should be incorporated with the perspective of the Two-Way Immersion Model of instruction (bilingual teaching) to promote high academic attainment.
 - ii. Language-wise instructional strategies should be incorporated to mitigate the learning needs of student-teachers in their various choice of Ghanaian languages.
 - iii. Strategies for designing instructional material should be incorporated for teaching language.
 - iv. The course outline and all learning material associated with this course should be written in the various Ghanaian languages to make instructions real for better understanding.
 - v. The reading list should be modified by adding adequate reading material to encourage extensive reading.
53. The objectives, contents, teaching methods, modes of assessments and two credit hours of FDC 311 were relevant and appropriate for preparing student-teachers in Ghana. Suggestions for further modification are;
- i. A mixture of different types of questions is critical for providing the true reflection of learning outcomes and must be employed to set structured questions for assessment.
 - ii. The course outline is given by the Institute of Education, UCC must be followed strictly to achieve the target.

- iii. The mandatory practice of speaking and writing in college must be encouraged to develop accuracy and fluency skills.
 - iv. Debating clubs should be allowed in the colleges to provide an open platform for student-teachers to develop their communication and argumentation skills.
 - v. Incorporate the methodology of teaching articles and rejoinders to equipped student-teachers with further knowledge and skills to be effective in the classroom.
 - vi. Adequate reading material should be made available in the colleges' libraries to encourage extensive reading.
54. The course objectives, contents, teaching methods, modes of assessments and two credit hours of FDC 312 were relevant and appropriate for producing teachers. Suggestions for further modification are;
- i. The teaching of probability should reflect real-life problem-solving process as per the needs of the student-teachers.
 - ii. Student-teachers must be introduced to all categories of data, viz., categorical, discrete, numerical, and continuous to gain versatile knowledge in solving statistical problems.
 - iii. The four weeks of instruction in the colleges must be increased to six for adequate preparation of student-teachers.
 - iv. Many Mathematics tutors were not capable of using excel for analysing data. Such tutors need to collaborate with ICT tutors for teaching statistics.
 - v. Mathematics tutors need to undertake professional development courses in statistics and probability to be effective in the classroom.
55. The course objectives, contents, teaching methods, modes of assessments and two credit hours of EPS 311 were relevant and appropriate. However, the content weightage between theory and practice was not balanced as student-teachers were not exposed to undertake practical lessons on counselling practices at the colleges. Suggestions for further modification are;
- i. Practical session for Guidance and Counselling should be encouraged in the colleges to enhance career skills and professional development.
 - ii. Active counselling unit should be created in colleges to provide a supportive environment for preparing effective student-teachers.

- iii. The BTE colleges should establish collaboration with other government and local organizations where they can exchange expertise knowledge, professional skills and facilities to achieve targets.
 - iv. Periodic workshops and programs should be made part of the contents of ESP 311 to enhance skills and professional development of the prospective school teachers.
 - v. The reading list should be modified, and furnish colleges' libraries with modern books that have updated information to enhance teaching and learning.
56. The objectives, contents, teaching methods, and modes of assessments of EPS 312A were relevant and appropriate. However, the contents of the analysis and interpretation of test scores for further teaching was not properly accomplished and the one-credit hour was not appropriate and must be relooked. Suggestions for further modification are;
- i. Perspective on portfolio assessment should be incorporated for student-teachers to learn holistic assessment of basic school student.
 - ii. There is a need to increase the number of credit hours from one to two to contain the contents.
 - iii. The adequate reading list should be provided as per the course objectives to encourage extensive reading.
 - iv. The BTE colleges should be given autonomy to allow the tutors to take control of the holistic assessment of their student-teachers.
57. The course objectives, contents, teaching methods, and modes of assessments of EPS 312B were relevant and appropriate while the one credit hour was not appropriated and must be upgraded. Suggestions for further modification are;
- i. Adequate contents on different types of research in education are needed to equip student-teachers with broad knowledge.
 - ii. Regular workshops should be provided in the colleges regularly in respect of research project supervision to hone skills of supervisors.
 - iii. Perspective on external project supervision should be incorporated in this course to improve the quality of research conducted by student-teachers in schools.

- iv. The one credit hour should be increased to three and possibly spread across two semesters (semester four and semester five).
58. The curriculum designers did not set objectives to regulate the operation of EPS 313. While it was not appropriate for student-teachers to teach only two lessons, and one supervisor to supervise each student-teacher. However, discussing of feed-back, planning of the lesson, and three credit hours were appropriate. Suggestions for further modification are;
- i. On-campus teaching practice should be conducted in every semester for all the year groups. This would adequately prepare student-teacher in pedagogical skills to be effective in the classroom.
59. EPS 322 was appropriate for introducing student-teachers to learning experiences and first-hand knowledge in the teaching fraternity, and its ability to expose student-teachers to the people in their communities including three credit hours were appropriate. However, six-week duration was inappropriate, and most of the mentors at the basic schools were lacking mentorship skills. Suggestions for further modification are;
- i. Qualified and committed school teachers should be identified to mentor the student-teachers.
 - ii. Head of schools should be trained to supervise and assess student-teachers at this stage to help tutors from abandoning lessons in colleges because of supervision.
 - iii. Colleges' time table should be adjusted for student-teachers complete every paper in the colleges before embarking on out-program with full concentration and commitment to teaching.
 - iv. Provision should be made in this stage for student-teachers to organize sensitization program to educate members of the communities against anti-social activities, outmoded cultural practices, and health-related issues.
60. The course objectives of EPS 321 was not found. However, the three credit hours, experienced supervisors, assessment procedures, and the scope of the activities in this course were appropriate. Suggestions for further modification are;
- i. The use of other research design like survey and experimental should be encouraged in studying and understanding issues in schools.

- ii. The duration (sixteen weeks) of conducts action research (project work) should be extended to one year for adequate data in understanding issues.
- iii. The management of the BTE colleges should provide regular training and workshops for project supervisors to refresh their knowledge and skills in supervision.
- iv. Assessment of dissertations should involve viva-voce to develop the confidence of the student-teachers.

61. Co-Curricular activities viz., Quiz competition, debate competition, Independence day celebration, field trip, talent show, and Student Representative Council (SRC) meetings were appropriate. While no course objectives and credit hour were found, some student-teachers shy away due to lack of interest and motivation. Suggestions for further modification are;

- i. The co-curricular activities should be monitored in the time table to compel student-teachers to participate.
- ii. The BTE management should endeavour to provide education and motivational packages either in cash or in-kind to those that participate in these activities.
- iii. Different types of activities should be incorporated to avoid boredom and attract the interest of the student-teachers to participate.
- iv. The BTE colleges should make participating in the activities compulsory so that every student-teachers will be obliged to join.
- v. To ensure full participation of student-teachers in these activities, two credit hours should be given for them to earn by the time of completing the program.

61. Extra-Curricular activities viz., soccer, volleyball, athletics, table tennis, fitness club, Muslim societies, and Christian societies were appropriate. However, course objectives and credit hours were not found and due to facilities problems, time constraints and poor supervision, some activities were not conducted. Suggestions for further modification are;

- i. Sporting kits and ultra-modern sporting facilities should be provided in all the BTE colleges to facilitate extra-curricular activities.
- ii. The BTE colleges should collaborate with local sports and organizations for exchange of expert knowledge and resources.

- iii. To motivate student-teachers who actively participate in these activities, incentives and motivational packages viz., cash, certificate, and the trophy should be presented to them at the end of every academic year.
62. There were lack of facilities like workshops, equipped libraries, internet and equipped laboratories to facilitate teaching and learning in BTE colleges. However, course materials like storybooks, syllabi, and textbooks to student-teachers were supplied to student-teachers which was appropriate for their professional development. Suggestions for further modification are;
- i. It is essential to provide study materials like course outline, storybooks and hand-outs on time preferably in the first week of every semester.
 - ii. The BTE colleges need ultra-modern libraries with relevant books and internet facilities to facilitate teaching and learning.
 - iii. The laboratories of the four major streams of Science (Physics, Chemistry, Biology and Agriculture) need to be upgraded to a modern standard with equipped apparatus and chemicals to facilitate practical works.
 - iv. The computer laboratories in the colleges need to be upgraded to meet the modern standard. More computers need to be provided, smart boards and projectors need to be provided in the classrooms including free WiFi facilities on campuses to enhance ICT integration.
 - v. Ultra-modern workshops need to be provided for each of the practical courses viz., Pre-vocational Skills (Sewing, Catering and Creative Art) and Music and Dance to enhance skills development.

5.6 Conclusions

Based on the data presented above, it can be learnt that curriculum evaluation is a continuous process which depends on the needs and aspiration of the society. This is made possible in any nation when education stakeholders are committed to providing quality education for its people. For this reason, the present study has evaluated the BTE curriculum designed in 2014 in Ghana by the Institute of Education, UCC and has been operating in BTE colleges on regular mode. This curriculum is having four objectives, i.e., 1) to produce generalist teachers capable of teaching all subjects at the Primary and J.H.S. levels, 2) to produce specialist teachers capable of teaching specific subjects such as Mathematics, Science and Technical at the JHS level, French at both Primary and JHS levels and Early Childhood Education, 3) to produce teachers

who have a clear grasp of intended outcomes of their teaching activities, who are skilled in monitoring, diagnosing and appropriately providing equal opportunity to all the pupils, and 4) to promote a close working relationship between Colleges of Education and local schools through the “Out” component of the program. Needed data were collected from experts (Regional Directors of Education, BTE principals and tutors) and final year student-teachers and alumni by using tools viz., questionnaire (open-ended and close-ended), group discussion and observation of lessons taught by alumni. It was revealed that the BTE curriculum objective-I was not relevant for producing generalist teachers who are incapable of teaching all basic school subjects. But suggestions were provided in that a separate BTE curriculum objectives be set to produce generalist teachers to teach at the primary school, and another objective to produce specialists’ teachers to teach at the JHS level. Also, the BTE curriculum objectives-II and the objectives-III were found as relevant and should remain as such while the objective-IV was a mean of the transaction of the curriculum and should not be retained as an objective.

The BTE curriculum covered courses under three broad areas viz., 1) Educational and Contemporary Studies which seek to help student-teachers to gain insight in contemporary Ghanaian society and needed education in mitigating societal needs, 2) Curriculum and Pedagogic Studies which prepare prospective teachers to master the subject matter and pedagogy and can continuously improve their professional practice for the attainment of goals and 3) Value Added Courses to inculcate social values, development of life-skills and creativity in the prospective teachers for their all-round development. It was revealed that most of the objectives, contents, methods of teaching, and assessment procedures of Educational and Contemporary Studies courses were appropriate for preparing student-teachers to understand current practices in education and professional development. But Educating the Individual living with Disability was not appropriate and requires some modifications to produce effective teachers to make classroom inclusive. However, contents about Psychology of Education, Philosophy of Education, and Sociology of Education which are critical for teacher preparation were not found in this category and must be re-looked.

About the Curriculum and Pedagogic Studies courses, the objectives, contents, methods of teaching, and assessment procedures of Mathematics, English language, and Environmental and Social Studies were appropriate and relevant for preparing

prospective teachers. However, there were no objectives of most of the Science subjects like Biology and Chemistry. Such courses including ICT were not given equal weightage in terms of practicality and have credit hour which was not appropriate and must be modified to produce effective teachers. It was also found that the Value Added Courses viz., ICT, Sewing, Catering, Creative Art, Music and Dance, were appropriate but the practice was not given due weightage and must be re-looked. It was reported that almost all the BTE colleges were having Co-Curricular activities and Extra-Curricular activities that were found appropriate for the holistic development of their student-teachers. However, students' participation in most of these activities were constrained by lack of motivation and time. Also, most of the BTE colleges were lacking infrastructure facilities like laboratories, workshops, and computers and equipment for facilitating teaching and learning and that must be re-looked.