

## **CHAPTER VI**

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## CHAPTER - VI

### SUMMARY AND IMPLICATIONS OF THE STUDY

#### 6.1 Introduction

Teacher education has a critical role to play for socio-economic development of a diversified society like Ghana. It prepares humane teachers who can create an enabling environment in meeting the diverse learning needs of children from different socio-economic background. The quest to improve teaching in schools is a concern of successive governments in many countries. For this reason, successive governments have made some changes in our initial teacher training curricular about what and how prospective teachers should be taught. These teachers who are the change agents in our societies are meant to produce morally upright, talented, skilful and self-sufficient youngsters to adjust in the society. To inculcate these values into the Ghanaian children who are in their critical stage of development (6-14 years), the basic school's teachers cannot be underrated. So, we must ensure that the Basic Teacher Education (BTE) curriculum in Ghana is apt to equip prospective teachers with the requisite skills to be effective, rather than providing only subject knowledge. This is because the student-teachers would have studied the contents of the various school subjects in their previous schools (basic and secondary) and might have mastered the subject matter but lacking the skills to teach. And to become an effective school teacher, one needs to be curious, desirous in enquiring about contemporary educational issues to be abreast with matters related to educational theories, school curriculum, and pedagogy. These abilities of a school teacher are essential for the attainment of instructional objectives in the classroom. For prospective teachers to develop these abilities, a balanced teacher education curriculum is required. The curriculum must be balanced in terms of subject knowledge, teaching methodology, instructional strategies, extra-curricular and co-curricular activities. If there are imbalances between any of these components, of course, it will be difficult to produce effective school teachers.

## **6.2 Conceptual Framework**

### **6.2.1 BTE Curriculum**

The teacher preparation continued unabated after Ghana had regained its independence in 1957. The first government led by Kwame Nkrumah took delight in using teacher training colleges to create a literate population for socio-economic development. In this regard, plans and policies were formulated and resources mobilized toward the establishment of teacher training colleges. Some of the major policies are presented as follows;

1. Education Act of 1961 (Act 87): to decentralize the missionary education system and entrust the management of educational units into the hands of local authorities.
2. Education Act of 2008 (Act 778): this emanated from Anamuah-Mensah's committee report (2002), commending Diploma in Basic Education (DBE) curriculum in BTE colleges.
3. College of Education Act of 2012 (Act 847): to upgrade the curriculum of the BTE colleges to meet the tertiary standard.

It can be learnt from these education policies that the present BTE curriculum has emerged from the College of Education Act of 2012 (Act 847). It was designed by the Institute of Education, University of Cape Coast (UCC) in 2014 to prepare basic school teachers in BTE colleges. Its duration is three years leading to the award of Diploma in Basic Education to successful student-teachers. By the time of conducting the present study, there were 43 BTE colleges in Ghana (NCTE, 2016). As per the guidelines of the central government, many more colleges may be under construction in the quest of meeting the national standard. The UCC determines the admission criteria, modes of transaction in the BTE colleges, and evaluation procedure. It has four objectives that sought to regulate the preparation of prospective teachers. The curriculum objectives as outlined by the Institute of Education, UCC (2014) are as follows;

- i. To produce generalist teachers capable of teaching all subjects at the Primary and J.H.S. levels.

- ii. 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.
- iii. 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.
- iv. To promote a close working relationship between Colleges of Education and local schools through the “Out” component of the program.

To achieve these curriculum objectives, courses were designed to equip student-teachers with content knowledge and pedagogical skills to be effective in the classroom. These courses could be classified into three broad categories. These are; 1) Educational and Contemporary Studies meant to prepare student-teachers to gain insight in contemporary Ghanaian society and needed education in mitigating societal needs, 2) Curriculum and Pedagogic Studies (including on-campus and out-program teaching practice) which is to 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 meant to inculcate social values, development of life-skills and creativity in the prospective teachers. To complete these courses, student-teachers are expected to spend the first two years (semester-1 to semester-4) in the colleges for face-to-face academic interaction with the tutors and on-campus teaching practice. In the third year (semester-5 to semester-6), the final year student-teachers have to embark on out-program teaching practice in corporate schools to experiment with the theories they learnt in the college.

Studies have found that most of the primary school's teachers in Sub-Saharan Africa were unequipped with the subject's knowledge and pedagogy (World Bank Group, 2018; UNICEF, 2016). As Ghana is one of such countries in this geographical area, it is essential to find out how the BTE curriculum is preparing effective teachers. Hence it is crucial to evaluate the BTE curriculum to determine how curriculum objectives and contents are relevant for preparing prospective teachers. Maybe, suggestions would be sought to improve some deficiencies in the curriculum to produce teachers that society desires.

### 6.2.2 Curriculum Evaluation Model

To evaluate the BTE curriculum, it is essential to follow the humanistic approaches as proposed by Cronbach (1963). This approach to curriculum evaluation allows subjective views and interaction between the researcher and the aspects to identify and address emerging challenges in a given curriculum to ensure a successful implementation. In the humanistic approach employs a collection of qualitative data about teaching and learning experiences of the individuals that are involved in the implementation of the curriculum by using tools viz., interviews, observation and focus groups discussions (Bharrvad, 2010). This approach involves the application of evaluation models. One of such models in that was used in the present study is the CIPP model (see details in the chapter-I). This model as applied in the present study has four dimensions which are presented as follows;

- **Context:** the extent to which the BTE curriculum objectives are meeting the needs of society. This includes the opportunities available for student-teachers, and possible problems that might be hindering the realization of the curriculum objectives in the BTE colleges.
- **Input:** here, attention was focused on the availability and accessibility of the resources that could be used to accomplish the BTE curriculum objectives. The resources included human and material resources such as competent tutors, laboratories, course material, workshops, internet facilities, and equipped libraries.
- **Process:** this concerns about conscious efforts made in the BTE curriculum in linking theory to practice. Here, attention will be focused on the academic activities in the classroom (instructional strategies), practice teaching, extra-curricular and co-curricular activities. How these components are appropriate for preparing student-teachers is essential in this study.
- **Product:** this examined the extent to which the BTE curriculum has produced effective teachers capable of teaching in the classroom. For this reason, lessons taught by basic school teachers who are alumni of the BTE curriculum was observed to find out the extent to which this curriculum has made an impact in their academic and professional lives as per the needs of the society.

### **6.2.3 Purpose of Curricular Evaluation**

Some purposes of curricular evaluation as identified by (Shaw, Greene & Mark, 2006) are as presented as follows;

#### **6.2.3.1 Decision Making**

Decision making is crucial in human endeavours. In this study, the findings (positive or negative) that will be arrived at will help the government of Ghana, Institute of Education, UCC, directors of education, principals and all stakeholders to know the status of the BTE curriculum and be able to make an informed decision.

#### **6.2.3.2 Improvement**

Improvement is another reason why curriculum evaluation is essential in an educational establishment. Improvement is required from the curricula areas. In most cases, management finds it difficult to identify curricula areas that need improvement. Of course, the policymaker will take a cue from the findings and suggestions that will emanate from this study to channel appropriate resources for the improvement of the BTE curriculum to achieve goals.

#### **6.2.3.3 Professional Development**

Maintaining a professional standard in education is crucial for enhancing performance. As we know that workers need to upgrade their knowledge and skills to be effective, there are still workers in our institutions who are unable to figure out their weaknesses. It is obvious that others are aware of their weaknesses but do not have a solution. Through curriculum evaluation, all these professional hitches will be unravelled and the given suggestions will help in building their professional skills to be effective.

#### **6.2.3.4 Certification and Recognition**

Accreditation is very essential in the education system. Educational institutions need to be recognized, graded and certificated by the board after having met a certain requirement. Such recognition serves as an approval for the institutions to operate courses and programs as deemed fit. In Ghana, the NAB is in charge of accreditation (NCTE, 2017). The NAB occasionally evaluates certificates of the workers and facilities of BTE colleges to ensure that qualified personnel and facilities are hired.

During this process, some curricular areas are checked and eventually give certificates to show the level that a program has reached. But the certificates are subject to renewal periodically and can be revoked if performance falls below the tertiary standard as indicated in the NCTE guidelines.

Based on the discussion above, it can be said that rigorous curricular evaluations play a crucial role in achieving the desired goals of education. Curricular issues are the core of teacher education. Curricular components are closely related in defining learning experience of student-teachers. What we want the student-teachers to learn, and how to present concepts that are relevant and interesting are the issues that are to be evaluated. To consider the evaluation, we can think of approaches to follow. In the next sub-section, the discussion will focus on the rationale of this study.

#### **6.2.4 Rationale of the Study**

In the recommendation of Anamuah-Mensah Committee Report, 2002, a new Basic Teacher Education (BTE) curriculum evolved leading to the award of Diploma in Basic Education (DBE) in Ghanaian BTE colleges. The BTE colleges were affiliated with the University of Cape Coast (UCC), where its programmes were prescribed, admission, and assessment criteria were determined. The present BTE curriculum was started in 2014 and has operated for more than four years and might gradually becoming obsolete (Mereku, 2016; Owusu, Adu-Opare et al, 2016). But we are unable to find any study that has looked into how far this curriculum has served its intended purpose. To maintain its quality to prepare effective teachers as per the current needs of the society, it should be evaluated.

The BTE curriculum was designed to prepare generalist teachers capable of teaching all the basic school subjects. This curriculum has prepared many teachers and almost all the basic schools in Ghana are filled up with the alumni. But no study was found in Ghana to this regard. Some studies such as Sirek and Sefton (2018), Hyndman (2017) and Collins (2016) were conducted in foreign countries about generalist teachers and have found that most of the teachers were unequipped with knowledge and skills to deliver lessons effectively in all the school subjects. So, if generalist teachers are not effective in foreign countries, what about Ghana? Meanwhile, the government expenditure on BTE colleges has been doubling since 2007 in the name of quality

basic teacher training but the value of teachers remains the same. To find answers to this question, this study is critical.

Proposals to relook into the BTE curriculum in Ghana to prepare competent teachers have become popular. Studies indicate that the contents of the curriculum and the approaches to curriculum transactions have fallen short of appropriate pedagogy and subject matter which has subsequently generated a huge debate amongst the policymakers and teacher educators in the country (Akyeampong, 2017; Amua-Sekyi, 2016; Owusu et al, 2016). The Chief Examiners' reports of various practical and language subjects have urged teacher training institutions to redirect programmes to prepare school teachers to acquire practical skills and subject knowledge to be effective in the classroom (WAEC, 2017). The Chief Examiners emphasized that most of the Basic Education Certificate Examination (BECE) candidates who wrote exams in 2017 grappled with grammatical errors in the English language and also lacked basic practical skills in skills related subjects like technical/vocational and integrated science. Also, the Ministry of Education (2016) conducted the National Education Assessment in Ghana and found that the pupils in class four and six were having a low level of proficiency in Mathematics and the English language. Here, a question that comes to mind is how are the contents of the BTE curriculum relevant for preparing prospective teachers? The answer to this question will be crucial for addressing the issues raised here.

The basic school children fall within the age group (6-14 years). This stage is critical for children's development. Their mental, emotional, intelligence and social development partly depend on teaching competencies and psychological make-up of the class teacher. The teacher must understand how children learn at this stage to prepare lessons as per their learning needs. But no study was found in Ghana about the ability of basic school teachers in dealing with pupils. To study and deal with children within this age group, child psychology cannot be underrated. But it can be seen from the BTE curriculum framework that psychology is not a substantive course. It is either infused in Religious and Moral Education in most of the cases or treated as an aspect of another subject in only one semester for one credit hour. Therefore, it is essential to conduct this study to understand how prospective teachers are prepared to make an impact on the development of basic school children.

In international perspectives, many children leave primary schools unable to read, write and perform simple arithmetic in Sub-Saharan Africa (UNESCO, 2017; UNICEF, 2016). This phenomenon may be attributed to teachers' characteristics. Studies have found that most of the primary school's teachers in Africa were unequipped with the subject's knowledge and pedagogy (World Bank Group, 2018; UNICEF, 2016). As Ghana is one of such countries in this geographical area, it is essential to find out how the BTE curriculum is responding to this phenomena. Hence it is crucial to evaluate the BTE curriculum to determine how curriculum objectives and contents are relevant for preparing prospective teachers. Maybe, suggestions will be sought to improve some deficiencies in the curriculum to produce teachers that society desires.

### **6.2.5 Research Questions**

The rational of the study gives rise to the following questions and the present study was conducted to find answer to the following questions;

- i. How relevant are the objectives of the BTE curriculum for training prospective-teachers?
- i. How far are the courses of the BTE curriculum appropriate for preparing prospective-teachers?
- ii. How far are the modes of BTE curriculum transactions appropriate for preparing prospective-teachers?
- iii. How the BTE curriculum can be made more relevant and appropriate?

### **6.2.6 Title of the Study**

The present study has been entitled as:

‘Evaluation of Basic Teacher Education Curriculum in Ghana’.

### **6.2.7 Objectives of the Study**

The study has been carried out with the following objectives;

- i. To study the relevance of the BTE curriculum objectives.
- ii. To study the appropriateness of the BTE curriculum contents.
- iii. To study the modes of transactions of the BTE curriculum.
- iv. To study the relevance of Extra-Curricular and Co-Curricular activities in BTE colleges.

### 6.2.8 Delimitation of the Study

The present study has been delimited to general 3-year BTE curriculum (regular) that was implemented in 2014 by the Institute of Education UCC, Ghana. The curriculum has been operating at the BTE colleges leading to the award of Diploma in Basic Education.

### 6.2.9 Explanation of Terms used in the Study

In this section, an effort has been made to explain some major terms that have been used in the context of the study.

- **BTE Curriculum:** All the course contents, learning experiences provided, and activities that the student-teachers have been made to engage in by the institution of teacher education. In the present study, we are referring to the BTE curriculum of Ghana and all the associated components.
- **Context Input Process Product (CIPP) Model:** Here the context is finding out the problems that might be hindering the success of the BTE curriculum objectives. The inputs are the available resources and strategies that are deemed appropriate for facilitating the success of the BTE curriculum. The process is about plans and guidelines that guide the implementation of the curriculum and further assist the implementers and the beneficiaries to in turn judge the outcome. The product is a measure of actual outcomes of the BTE curriculum. The outcome was judged by observing the lesson taught by the basic school teachers who were the alumni of the curriculum.
- **Curriculum transaction:** Here in the study the methods and approaches followed by the teacher educators to train the student-teachers. It includes a transaction of education and professional courses, electives courses, curriculum and pedagogical courses, value-added courses, practice teaching (out program & on-campus), research projects, extra-curricular and co-curricular activities.
- **Curriculum evaluation:** Curriculum evaluation concerns the relevance of curriculum objectives, appropriateness of the contents of the courses, classroom transactions in the teacher education colleges, the process of out-program and the project work from the perceptions and opinions of concerned people and educators.

- **Relevance.** In this study, relevance referred to the extent to which the BTE curriculum objectives have been achieved, and availability of Extra-Curricular and Co-Curricular activities in BTE colleges for all-round development of student-teachers.

### **6.3 Review of Related Literature**

Here, an effort has been made to present the review of related literature in a manner that is appropriate and convenient. For this reason, the related literature has been organized under eight themes that emerged. The first theme is about the curriculum objective. The studies under this theme were conducted to study the four BTE curriculum objectives. The second theme is about the subject knowledge and pedagogy. This theme includes only the studies that were conducted to study how the BTE curriculum was equipping prospective teachers with subject knowledge and pedagogy to be effective in the classroom. The third theme is about practice teaching. This theme includes studies that deal with how the various forms of practice teaching (on-campus & out-program) were been organized by the colleges for student-teachers to have first-hand teaching experience. The fourth theme which is about Inclusive Education mainly included studies that discussed how student-teachers were prepared to teach in an inclusive classroom. The fifth theme which is about teaching and learning resources considered only the studies that could help to study the available resources in the colleges used to facilitate teaching and learning. The sixth theme is about the assessment of learning outcomes. This theme includes studies that discussed how assessments are conducted in the BTE colleges to determine the learning outcomes of student-teachers. The seventh theme is about revamp needed which mainly includes studies that justify why revamp in needed in the BTE curriculum. The last theme is about curriculum evaluation method which involves studies that were conducted to study the methods that could be used to evaluate a curriculum to arrive at appropriate findings. The implications of the review of related literature are presented as follows.

#### **6.3.1 Implications of the Review of Related Literature**

The researcher gained an insight into the previous studies that were carried out by the various researchers and scholars in the field of education specifically about curriculum evaluation. Valuable ideas and implications were drawn to help the researcher to arrive at useful findings. The implications that were drawn from the

review of the related literature were categorized into substantive implications and methodological implications which are presented as follows.

### **6.3.1.1 Substantive Implications**

- It can be learnt from the review of related literature that the BTE curriculum is essential for preparing generalist teachers for primary schools. But facts were not revealed about the appropriateness of the semester wise contents of the three main categories of the BTE courses viz., 1) Curriculum and Pedagogic Studies, 2) Educational and Contemporary Studies and 3) Value Added Courses. Here, the question that arises is whether the contents of the BTE courses in these categories are appropriate for preparing student-teachers to be effective in the classroom. The available literature presented above could not provide an accurate answer to this question.
- It can be seen from the related literature that no study was found in Ghana about the BTE curriculum objectives. So, the unanswered question is whether the four BTE curriculum objectives as presented in the chapter-I of the presented study are relevant in terms of meeting the needs of the society. But some studies were found in the foreign countries revealing some facts about generalist teachers (i.e., BTE curriculum objective-I) and specialist teachers (i.e., BTE curriculum objective-II). No study was found concerning objective-III and objective-IV.
- It can further be learnt from the review of related literature that Psychology of Education is critical in teacher preparation. But the question that has not been answered is whether the BTE curriculum has incorporated a course on Psychology to prepare prospective teachers. If the answer is in affirmative, what is the appropriateness of the contents in terms of preparing student-teachers? the available literature could not provide an answer to this question.
- The availability and accessibility of facilities in the BTE colleges have a tremendous effect on the curriculum transaction as found in the available literature. Here, it is expected that the findings of the present study may either contradict or affirm the findings of the related literature. Whatever the findings may be, the question that did not get an answer is how facilities affect the tutors' choice of instructional strategies in the colleges.

- There is no study found about student-teachers' participation in co-curricular and extra-curricular activities in the BTE colleges. So, the unsolved question here is whether student-teachers participate in these activities in the BTE colleges. If they do, what are the activities and how appropriate are those activities in terms of preparing holistic student-teachers?
- Some studies were found about the practice teaching in the BTE colleges. Most of the studies highlighted some challenges that are confronting student-teachers during practice teaching. But how the various stages of practice teaching viz., on-campus teaching practice and out-program teaching practice are organized by the colleges were not revealed.
- Some studies were found expressing the need to review the BTE curriculum. But no study was found in Ghana evaluating the BTE curriculum which has operated for more than four years. So, it is not known whether the BTE curriculum in Ghana which was stated in 2014 has lost its potency for preparing effective teachers.

#### **1.3.1.2 Methodological Implications**

- The methodologies of studies concerning the model of curriculum evaluation, some of the investigators like Imansari and Sutadji (2017), Chinta et al (2015), Tom-Lawyer (2014), Chiang (1996), and Tom-Lawyer (2014) used CIPP model to achieve their objectives.
- Some investigators like Nyabero (2016), Gordon Clark et al (2014) revealed that qualitative and quantitative methods could be used to conduct evaluation study. Out of the total of 65 related literature reviewed, about 43 of them adopted a descriptive survey design. These researchers collected data by using tools such as questionnaire, focus group discussion, and interview schedule. Also, the collected data were subject to descriptive statistical analysis by using frequency and percentages. But a few of the investigators (24) used experimental design, and case study. It was learnt from the related literature that complex inferential statistics were not used to conduct an evaluation study.

## **6.4 Methodology**

The plan and procedure of the study is presented here below.

### **6.4.1 Population of the Study**

The population of the study consists of all the 43 public BTE colleges offering the BTE curriculum, 2014 and are affiliated with the Institute of Education, the UCC in Ghana.

### **6.4.2 Data Needed for the Study**

As per the objectives of the study, data needed were about the curriculum areas viz., objectives, contents, teaching methods, co-curricular and extra-curricular activities, modes of assessments and credit hours of the BTE curriculum in operation in the affiliated colleges of UCC. The details of the needed data are presented below as per the objectives of the study.

#### **6.4.2.1 Objective-1: Relevance of the BTE Curriculum Objectives**

To study the relevance of the BTE curriculum objectives; data needed were about the judgments and suggestions from the experts (directors of education, the principals of BTE colleges, and BTE tutors) and BTE graduates.

#### **6.4.2.2 Objective-II: Appropriateness of the BTE Curriculum Contents**

To study about the appropriateness of the contents of the courses for preparing basic school teachers, experts' judgements about its' appropriateness and modifications if any, were needed as data. Also, the efficacy and competencies of school teachers who had graduated from BTE colleges in the last three years were the data needed to study the appropriateness of the contents of the BTE curriculum, 2014. Further data regarding the judgments of the final year student-teachers about the appropriateness of contents were needed.

#### **6.4.2.3 Objective-III: Modes of Transactions of the BTE curriculum**

Data were needed from the experts to study the plan of activities for student-teachers in the first two years (in-in programme) in the BTE colleges, and the out-programme sessions in the third year. These data are; the experts' judgements about the modes of transacting the practice teaching (out programme and on-campus), extra-curricular activities and co-curricular activities, project work, methods of teaching the various courses, assessment of student-teachers, and teaching and learning resources.

#### **6.4.2.4 Objective-III: Relevance of Co-Curricular Activities and Extra-Curricular Activities**

To study the relevance of Co-Curricular activities and Extra-Curricular activities; data needed were about the judgments and suggestions from the final year student-teachers who were the direct beneficiaries.

#### **6.4.3 Sample for the study**

The BTE curriculum in Ghana is designed by the Institute of Education, the UCC and is implemented in all its 43 colleges. Therefore to study the curriculum of BTE, it needs to be studied in all its colleges. But as all these colleges were having the same curriculum in operation, a representative sample of BTE colleges was considered to be appropriate. To have a representative sample of colleges, it was felt essential to select the colleges region-wise. As Ghana is divided into ten administrative regions and each region has some number of BTE colleges affiliated with the Institute of Education, the UCC, one college from each region was selected by using a simple random sampling method. To select the sample, colleges were listed region-wise as presented in table-3.1. From the listed colleges of each region, one BTE college from each region was selected by using the lottery method. The sample selected are presented below.

1. Regional directors of education (10) from the ten regions of Ghana were selected by using purposive sampling technique.
2. Principals (10) from the BTE colleges (one from each college) were selected by using purposive sampling technique.
3. Tutors who are Department Head (120) from the BTE colleges (12 from each college) were selected by using purposive sampling technique
4. Basic school teachers (26), who are alumni of the BTE curriculum from 10 basic schools were selected by using quota sampling technique
5. From the four zones of BTE colleges, 320 final year student-teachers were considered (80 from each zone) by using cluster sampling technique.

#### **6.4.4 Tools and Techniques used for the Study**

Based on the objectives of the study, data about the relevance of curriculum objectives, curriculum content, mode of transactions, and suggestions about how the

curriculum could be modified were needed for the study. To collect the needed data to achieve the objectives, the following tools were used.

- i. Questionnaires (open-ended and close-ended) for the regional directors of education, principals and tutors of BTE.
- ii. Observation lessons taught by alumni in basic schools.
- iii. Group discussion for final year student-teachers.
- iv. Documents analysis of 2014 BTE curriculum, Syllabus and lecture notes etc.

#### **6.4.4.1 Questionnaires for the Regional Directors of Education and College Principals**

Based on the objectives of the study, data were collected from the regional directors of education through a questionnaire. Since the directors of education and the college principals are at the forefront of BTE college education and are involved in curriculum designing and implementation, it was thought that they were better fit persons to provide the needed data relating to the relevance of the curriculum objectives, contents appropriateness, modes of transactions and needed modification if any. By seeking the guidance of the guiding teacher, the researcher prepared the questionnaire by following the CIPP model. Here, it was essential to refer to the BTE Curriculum document, 2014, that is in operation. The questionnaire therefore was having open-ended and close-ended questions. The aspects upon which the questions were framed alongside the number of items are presented in table-5 of the previous chapter of the present study (Chapter-III).

#### **6.4.4.2 Questionnaires for BTE Tutors**

Noting that the course tutors were involved in the curriculum designing and transaction process, they were considered in the study to respond to questionnaire with a view that they would be able to provide needed data as per the objectives of the study. By seeking the guidance of the guide, the researcher prepared the questionnaire by following the CIPP model. Here, it was essential to refer to the BTE Curriculum document, 2014 that is in operation. The BTE curriculum was referred to cover the following aspects; relevance of BTE curriculum objectives, appropriateness of BTE curriculum contents and mode of transactions. The contents aspect of the questionnaire were designed in different course areas viz., Mathematics, the English language, Integrated Science, Social Studies, the Ghanaian language, Religious and

Moral Education, HIV/AIDS, Physical Education, ICT, Pre-Vocational Skills, Education and Professional Studies and Music and Dance. As the courses differ in contents, the questionnaire items about the curriculum contents also differed from one course to the other. In all the courses, the questionnaire items were designed based on their major topics and were having closed-ended and open-ended questions.

#### **6.4.5 Validation of the Questionnaire**

To ensure the validity of the questionnaire, it was given to five experts for validation. The experts were selected from the field of basic education having professional qualifications of Doctoral and Master degrees in education and more than having 15 years of teaching and administrative experience. The experts were composed of 2 professors from the field of education and 3 principals of BTE colleges. Based on the suggestions given by the experts, the questionnaire was modified. The details of the modified items on the questionnaire are presented in table-10 of the chapter-III. The questionnaires were therefore having the following headings;

- A-Bio-data
- B-Relevance of the curriculum objectives
- C-Appropriateness of the curriculum content (enclosed in Appendix-D)
- D-Modes of transactions of the BTE curriculum
- E-Practice teaching
- F-Assessment of student-teachers
- G-Teaching and learning resources
- H-Co-curricular and extra-curricular activities
- I-Suggestions

#### **6.4.6 Observation for Basic School Teachers**

The researcher observed 26 lessons taught by basic school teachers to find out how the teachers were applying knowledge and professional skills in planning and delivering lessons in schools. Though the researcher was not having a checklist, the observation was conducted as per the following themes; prepared lesson note by the teachers, lesson presentation, mastery of subject matter, classroom management, the response from students and evaluation.

#### **6.4.7 Group Discussion for Final Year Student-Teachers**

The final year student teachers were asked to express their views about the following themes; the appropriateness of the topics in the various courses of the BTE curriculum in terms of subject knowledge and pedagogical skills capable of teaching in basic schools. Also, they were requested to express their views about the teaching methods that their tutors were using to teach them in colleges. They were further requested to express the views about how to practice teaching was organized. Here, particular attention was paid to the activities involved and how the observations in schools, on-campus and out-programme teaching practice were conducted and challenges that were encountered.

#### **6.4.8 Data Presentation and Analysis**

To achieve the objectives of the study, the collected data were analysed by following the steps presented below.

- a. The data were presented in three sections i.e. section-I relevance of the BTE curriculum objectives, section-II the appropriateness of the BTE curriculum contents and modes of transactions, and section-III relevance of Co-Curricular activities and Extra-Curricular activities.
  - i. Section-I: the collected data were the experts' judgments and the observation of lessons taught by basic schools teachers.
  - ii. Section-II: the collected data were the judgments from the experts, final year student-teachers and the observation of lessons taught by the basic school's teachers.
  - iii. Section-III: the collected data were opinions from the experts, final year student-teachers about the Extra-Curricular and Co-Curricular activities and facilities available in BTE colleges.
- b. Judgments collected through close-ended questions were subjected to descriptive statistical analysis by using frequencies, percentages whereas the open-ended questions, unstructured interview, observations and focus group discussions were presented as per emerging themes. In each of the three sections, suggestions were collected from the respondents for modification of the BTE curriculum.

## 6.5 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).
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.

9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. 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.

16. 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.
17. 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.
18. 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.
19. 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.
20. 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.
21. 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.
22. 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.
23. 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.
24. 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.
25. 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.
26. 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.
27. 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.
28. 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.
29. 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.
30. 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.
31. 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.

32. 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.

33. 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.

34. 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.
35. 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.
36. 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.
37. 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. Aerobic activities such as swimming, cycling, jogging and running must be incorporated to ensure individual differences in the PRA 212 classroom.

- iii. 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.
38. 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.
39. 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.
40. 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.
41. 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.
42. 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.
43. 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.
44. 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.
45. 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.
46. 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.
47. 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.
48. 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.
49. 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.
50. 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.
51. 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.
52. 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.
53. 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.
54. 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.
55. 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.
56. 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).
57. 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. Suggestion for further modification is;
- 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.
58. 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.

59. 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.

60. 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-curricula 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 was a 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.
- i. 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.

## **6.6 Implications of the Study**

Implications that can be drawn from the study are presented as follows.

### **6.6.1 Implications for BTE Curricula**

1. The NCTE envisages that teacher education shall maintain a national standard. In this consideration, the Institute of Education, UCC, 2014 also maintains that steps would be taken to prepare teachers capable of teaching at the basic schools. And these teachers need to respond effectively to the needs of society. A number of the BTE curriculum objectives stand to meet the needs of the society but the BTE curriculum objective-I fails to reflect the needs of the Ghanaian people. Therefore, steps should be taken to address the discrepancies that are in the BTE curriculum objectives.
2. The BTE colleges are affiliated with the Institute of Education, the UCC which means the colleges have no autonomy to design curriculum. Due to this vertical structure, modes of assessments of learning outcomes of student-teachers in some of the courses are not appropriate. This is because the tutors cannot determine the mode of assessment of their student-teachers. So, autonomy should be given to the BTE colleges to design and operate their curriculum.
3. Six weeks durations of out-program teaching practice, reading list and credit hours of some courses are inadequate. To have a curriculum that has adequate credit hours and duration, a B.Ed curriculum is essential. So, the policymakers must upgrade the BTE curriculum to award B.Ed in basic education with a specialization in Early Childhood Education, Primary Education and JHS Education. This would help to produce teachers that are equipped with the 21<sup>st</sup>-century teaching and learning skills like problem-solving, creativity, collaboration etc. to be effective in the classroom.
4. The BTE curriculum has incorporated courses that would prepare student-teachers for holistic development. For this reason, student-teachers were

introduced to value-added courses such as HIV/AIDS Education, Music and Dance, PE, and Pre-Vocational Skills. But some of the courses like HIV/AIDS Education, Music and Dance, and PE are ignored by teachers at the basic schools. To ensure that these courses are taught at the basic schools, the GES must prioritize these courses and make sure that they are taught properly for the holistic development of the students.

5. Most of the BTE courses have equipped student-teachers with the subject matter and pedagogical skills. But Mathematics topics like  $2 \times 2$  matrix, use of calculator, 'logarithms' and 'Pythagoras theorem' are not linked to the basic school Mathematics syllabus. Also, the absence of Philosophy of Education and Psychology of Education is likely to have some effects on teacher preparation. This phenomenon should be further investigated.
6. The BTE curriculum has sociable Extra-curricular and Co-curricular activities. Of course, some of the activities help in learning new skills but less priority has been given to professional development. Therefore, student-teacher must-attend conferences, and participate in seminars to develop their knowledge and understanding in educational issues, confidence and presentation skills for reflective practice.
7. The BTE authorities have to provide adequate facilities in the BTE colleges to facilitate teaching and learning. There is need to furnish the Science laboratories with adequate equipment, furnish the library with relevance books, provide computers and internet facility in the ICT laboratory, provide workshops with relevance tools for practical subjects and provide sports facilities for the holistic development of student-teachers.
8. Practice teaching needs to be subjected to proper monitoring and supervision from BTE colleges. Regular and thorough supervision of every related activity of practice teaching is essential. The supervisors need to prioritize supervision in the various stages of practice teaching viz., on-campus stage and out-campus stage and give appropriate feedback.
9. Teaching methods in most of the BTE colleges were affected by lack of facilities. Lack of colleges' farms, computers, chemicals and apparatus in Science laboratories was found to have influenced teaching methods of Biology, Chemistry, Physics, Agriculture and ICT.

10. Professional development programs in BTE colleges are needed for the subject tutors to refresh and develop their knowledge and skills.
11. Some student-teachers after completing this curriculum would be engaged as headteachers at basic schools where their services are needed. Therefore, they should be provided with orientation and guidance services particularly in the final year of their study to make them effective.
12. The content weightage between theory and practice must be balanced, and all year-groups be allowed to undertake on-campus practice teaching.
13. As student-teachers in Italy complete 240 credit hours, Japan 85 credits and Finland 160 credit, it is critical to increase the total BTE credits hours in Ghana from 62 to 120 for more hours to also encourage participation of experts and local resource persons to prepare effective teachers.

### **6.6.2 Implications for Further Study**

Based on the findings of the present study, the following suggestions can be considered for further studies.

1. Evaluation of different curricula can be conducted such as the B.Ed curricula that prepare basic school teachers and Early Childhood Education.
2. The present study evaluated the BTE curriculum in operation on regular mode, a similar study can be conducted on the BTE curriculum that is operating on distance and sandwich mode.
3. Humanistic approach cum CIPP mode was used in the present study. Other approaches should be used by researchers in the future to evaluate the BTE curriculum.
4. Classroom practices of BTE tutors can be taken up. This would help us to know their teaching competencies leading to effective curriculum implementation.
5. The training needs of generalist teachers can be studied to make us understand what competencies they require to be effective in the classroom.
6. For prospective teachers to have in-depth understanding of children, and be reflective and analytical about educational matters, it is critical to incorporate courses such as Educational Psychology and Educational Philosophy in the BTE curriculum.

## **6.7 Conclusion**

Based on the findings above, it can be concluded that curriculum evaluation in teacher education is crucial for enhancing teacher effectiveness. In the present study, the BTE curriculum was evaluated by following humanistic cum CIPP model. The evaluation was focused on the curriculum components viz., the curriculum objectives, course objectives, course contents, modes of assessments, credit hours and co-curricular and extra-curricular activities. It was established that the BTE curriculum objective two and three were relevant for producing teachers but the curriculum objective one and four were not relevant and must be relooked. The contents of most of the courses, and co-curricular and extra-curricular activities were appropriate while modes of transacting, assessment procedures and credit hours of most of the courses need to be relooked to prepare effective teachers. This suggests that the research objectives of the study have been achieved. The findings and the implications of the study are critical for teacher preparation. Also, the suggestions that have emerged for further improvement of the various component of the curriculum are appropriate for producing competent teachers. The research methodology followed here will help future researchers in evaluating teacher education curricula at different levels.