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# Teacher Educators' Challenges in Implementing the 2018 Bachelor of Education Curriculum for Pre-service Teachers

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## Abstract

This study explores the challenges faced by teacher educators in implementing Ghana's 2018 Bachelor of Education (B.Ed.) curriculum using a qualitative research approach. Twenty-five participants shared their experiences. The group comprised five women and twenty men aged 40 to 60, with teaching experience spanning 14 to 31 years. Through semi-structured interviews, the research identifies key issues such as undefined scope in course manuals, resource limitations, and difficulties in managing classroom time. The study applies the Concerns-Based Adoption Model (CBAM) and the Interpretive Phenomenological Approach (IPA) to analyze these challenges. Findings highlight the need for clear course structures, adequate teaching resources, and better time management strategies. Addressing these challenges is crucial for achieving curriculum fidelity and improving the quality of education. The study provides recommendations for policymakers and stakeholders to enhance the successful implementation of the B.Ed. curriculum in Ghana. This research contributes to the broader understanding of curriculum implementation in higher education, particularly within the African context.

Keywords pre-service teachers; bachelor of education curriculum; curriculum implementation; curriculum implementation challenges

## Introduction

The success of any curriculum reform and its implementation rests on many crucial factors. However, the role of the teachers in curriculum implementation and evaluation cannot be overemphasized (Xu and Lu, 2022; Ndomondo et al., 2022; El Kazdouh et al., 2022; Elliot, 1994). The ability of teachers to effectively implement a curriculum in tandem with its goals and objectives largely depends on how they understand the curriculum (among other factors). Despite this, teachers' role in curriculum development and implementation is often blurred (El Kazdouh et al., 2022; Ndomondo et al., 2022; Jadhav and Patankar, 2013). For instance, Ndomondo et al. (2022) lament the inadequacy of teachers in meeting the goals of a new History curriculum in Tanzania due to inadequate training of both preservice and in-service teachers. Additionally, the lack of infrastructure and equipment in educational institutions constitutes a major factor hindering the realization of curriculum goals (El Kazdouh et al., 2022; Xu & Lu, 2022). Such problems can lead to non-alignment between curriculum objectives and instructional practices, as shown in the case of Tanzania and Uganda (Atuhurra & Kaffenberger, 2022).

Regardless of the growing interest in the teacher's role in curriculum implementation,

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and the plethora of literature available on implementation of teacher education and training curricula, little is known about studies on implementation of teacher education in Africa, particularly, Ghana. The few higher education curriculum-based studies in Africa are largely from science-related programs (Davies, 2019; Bell, 2014). Thus, this article explores teacher educators' challenges in implementing a bachelor of education curriculum for pre-service basic school teachers that was rolled out in Ghanaian teaching universities and colleges of education in 2018 and their implications for the quality of education pre-service teachers receive to be able to teach effectively in basic schools. This article also provides recommendations for teacher education stakeholders for the successful implementation of the B. Ed. Curriculum.

*Overview of the B. Ed. Curriculum*

In 2018, the Ministry of Education in Ghana rolled out a nationwide implementation of a new degree-oriented teacher education curriculum for the teacher education and training of pre-service teachers for basic schools in all teaching universities and colleges of education. Each college of education is affiliated with one of the five traditional universities for successful transition and implementation of the curriculum. The four-year curriculum was "driven by a desire to ensure that Ghana produces teachers who can inspire learners and encourage critical thinking, problem-solving, and creativity rather than simply focusing on factual recall to pass written examinations" (MoE, 2018). In other words, the curriculum was designed to ensure "a cadre of skilled, knowledgeable, and motivated Ghanaian teachers who meet the requirements of the National Teachers' Standards (NTS)". Implementation of the new curriculum is foundational on four principles and practices: National Teachers' Standards (NTS), the National Teacher Education Curriculum Framework (NTECF), the National Teacher Education Assessment Policy (NTEAP), and the National Schools Partnership Policy (NSPP).

In the fourth year of implementation of the curriculum, teacher educators in Ghana have shown determination to support the national goals of producing teachers who can inspire learners to develop lifelong learning qualities for the country's growth. However, in that same period, several challenges have affected and continue to affect the success of the curriculum implementation. Thus, for this study, the researchers, who are also educators implementing the curriculum, set out to examine the challenges associated with implementing the current B.Ed. Curriculum with a specific focus on teacher educators' experiences with the manuals, access to reading materials, time management, access to needed curriculum infrastructure, and the availability of human resources with the expertise to teach the courses as outlined in the new curriculum. The article also discusses educators' efforts to address this issue while waiting for policy change and provides recommendations based on the findings.

To meet the aim of the study outlined, the paper continues the overview with a review of the relevant literature on curriculum development and implementation, stakeholders, and factors associated with successful implementation. Specifically, the roles of policymakers and teacher educators are centered. This is followed by a discussion of the conceptual and theoretical framework for evaluating and analyzing the challenges that teacher educators identify and methodology. Fundings and discussions are then shared, and the article concludes with a discussion on implications and recommendations for policymakers.

## Literature Review

*Curriculum and Implementation*

Some scholars broadly define "curriculum" as a three-part program consisting of programs of study, activities, and guidance

(e.g., Offorma, 2005). Ergo, a curriculum serves as a blueprint or tool through which a school aims to bring to life the aspirations and ideals of the society in which it functions. Other scholars view the curriculum as the structured learning opportunities provided to children in school (Ogar & Opoh, 2015). Similarly, various scholars have varied understandings of curriculum implementation. Some see implementation as the process of putting the curriculum into action to achieve the goals for which the curriculum is written (Bediako, 2019; Chaudhary, 2015). That is, implementation occurs as the learner gains the pre-planned or intended experiences, knowledge, abilities, concepts, and attitudes that are meant to help the same learner to be able to operate well in society. The learner is the main character in this scenario, and the instructor is the facilitator of the curriculum implementation process. Yet, others view it as a conversion of the curriculum's goals from paper to practice, from theory to practice, or from proposal to action (Okebukola, 2004; Ivowi, 2004).

Though perspectives on curriculum implementation vary, there is an underlying consensus on it as a process in which teachers and students engage in learning activities to foster learning. This stage of the curriculum implementation – which involves collaboration between teachers, students, school administrators, and parents – takes place in the classroom. Additionally, it incorporates using physical resources and applying effective instructional practices and approaches (Erstad & Voogt, 2018). Accordingly, the quality of educated citizens in society rests on the caliber of its educational system.

*Factors Affecting Curriculum Implementation*

Research often focuses on education problems and the schools' and educators' flaws and obligations. Consequently, schools constantly make curriculum changes and reforms, which teachers do not always fully understand and internalize. The curriculum often remains only written documents to be adapted with half practices. It should be noted that the curriculum may have every feature it needs; however, unanticipated issues in the classroom, the personalities of the students and teachers, and technical issues could prevent the document from serving its intended function (Karakus, 2021; Erstad & Voogt, 2018). Hence, though a curriculum may be well thought out and communicated, it might not work if it is not operationalized through dedication to feasibility and full-scale execution. "implementation" denotes operationalizing well-articulated, well-intended concepts packaged as theory (Ogar & Opoh, 2015). Therefore, to implement is to turn actionable concepts into reality. In other words, it is the process of putting into action a decision, proposal, idea, strategy, or policy on which consensus has been reached.

It is common in West Africa to experience a failed curriculum (Mkpa, 2005). Ifedi (2008) reiterates that graduates from a beautifully written but poorly implemented curriculum fail to provide the dynamic leadership expected for a country's economic and political development. However, the factors affecting the implementation of the curriculum are numerous. These factors include teachers, learners, administrators (principals or headteachers), policymakers, and other key stakeholders such as parents, parents' and teachers' associations, religious organizations, local authorities, companies, and private school proprietors. It is crucial to remember that these factors interact in educational practice and produce influences that cannot be solely traced to one component or another. They must, therefore, be viewed as a whole (Chaudhary, 2015). Nevertheless, for this study, we focus on challenges that teacher educators face in implementing the B. Ed. Curriculum, within the framework of the curriculum objectives, and its resultant implications for policymakers and other key stakeholders.

The need to develop and implement a new curriculum is premised on the importance of creating a conducive environment for improved learning towards the attainment of professional and life skills, graduate employability, and high-quality citizens (Bok, 2020; Brint, 2018; Posillico et al., 2022). Accordingly, curriculum reform is informed by the national goal of developing students with 21st-century skills and global mobility (Adam, 2009; Sulaiman, 2016; Maharajh, Nkosi & Mkhize, 2016). It is important to understand teacher educators' challenges in the implementation process to inform policy. It is also noteworthy that while teacher agency – the ability to suggest ways to address challenges (Biesta & Tedder, 2006) and to enact actions towards the attainment of stipulated objectives critically – is crucial to successful implementation, the availability of resources and enabling environment cannot be overemphasized. Consequently, teachers' ability to support the attainment of curriculum goals requires productive "interactions of individual [teacher] competencies and the resources, affordances, and environmental limitations through which individuals operate" (Madondo, 2018, p. 401). The latter implies the role of policymakers/government in meeting the curriculum objectives of "produc[ing] teachers who can inspire learners and encourage critical thinking, problem-solving, and creativity rather than simply focusing on factual recall to pass written examinations" (MoE, 2018).

*The Role of Policymakers/ Government*

Policy Makers/Governments are responsible for engendering an environment that promotes the well-being of the educational system, educational resources, and the updating/provision of infrastructural facilities (Chaudhary, 2015; Kurniawan, 2015). They take care of the finances of the educational system, the hiring of teaching staff, the training of teachers in curriculum implementation methods, the organization of teacher incentive programs, the emphasis on scholarly research and publication, the good remuneration of teachers, and training of teachers before and during curriculum implementation because proper training plays a role in implementing the curriculum with confidence (Caropreso et al., 2016; McNeill et al., 2016). The inability of policymakers to meet these responsibilities indicates the potential failure of the curriculum.

*Theoretical Framework*

The fidelity of implementation of any curriculum reform is dependent on the extent to which implementation aligns with curriculum objectives and expected outcomes (Nevenglosky, 2018). This means that an assessment of a curriculum implementation must consider materials and resources, intervention providers (teacher educators and COEs in this study), delivery time and duration, and teaching and learning strategies (Onyura et al., 2022). Since each curriculum intervention and implementation are different, researchers and evaluators need to address the context and objectives of the target curriculum (Horsley & Regehr, 2018; Onyura et al., 2022). In other words, evaluating curriculum intervention and implementation means being attentive to context-specific needs and indicators of successful implementation. Thus, the fidelity of implementation, to a large extent, rests on the laps of teachers as key implementors whose interpretation and enactment, coupled with students' characteristics, determine curriculum outcomes (Ahmed et al., 2016; Nevenglosky, 2018; Yurdakul, 2015).

*Concerns-Based Adoption Model*

Consequently, the concerns-based adoption model (CBAM) is employed to understand the challenges that teacher educators experience in implementing the B. Ed. Curriculum. The CBAM is a conceptual framework for assessing concerns about a new program or curriculum innovation.

Adapting the model for the study on teacher educators' challenges with the B. Ed Curriculum, CBAM's three diagnostic dimensions are used to understand teachers' concerns (challenges). First, the curriculum document and manuals are identified as an *innovation configuration map* (the first diagnostic dimension of CBAM), the guide and exemplar of high-quality implementation with articulated outcomes. The *Stages of Concern* constitutes the open-ended, in-depth interview with teacher educators that provides information on various departments' challenges and attitudes toward the curriculum. At the same time, the *Levels of Use* are employed to understand aspects of the curriculum that are not implemented (nonuse) and those that are. The three together provide the lens to understand teacher educators' challenges with teaching the B. Ed. curriculum, the whys of these challenges, and ultimately, recommendations for curriculum developers and policymakers to act.

## Methodology

### *Design*

The qualitative research approach was used to investigate educators' challenges in implementing the B.Ed. curriculum. Building on CBAM, the Interpretive Phenomenological Approach (IPA) was used in this study as it is participant-oriented, thus allowing multiple participants to share their lived experiences about a phenomenon in their natural contexts (Creswell, 2012; Alase, 2017). Thus, in this study, teacher educators share their experiences (challenges) in their COEs concerning the B.Ed. Curriculum (phenomenon). Additionally, as researchers who teach the curriculum, IPA creates opportunities for us to bracket our experiences (Creswell & Poth, 2018; Alase, 2017) to fully engage the essence of the experiences of the teacher educators in this study. A semi-structured, in-depth interview with the added advantage of further probing of the participants by the researcher (Levitt et al., 2018; Magaldi et al., 2020) was deployed to assess the implementation and interpretations participants attribute to their experiences of teaching the B.Ed. Curriculum. The researchers used a self-developed interview guide to gather qualitative data from the participants. The instrument elicited information on the extent of the teacher educators' engagement with the manual and textbooks, the length of time available to cover the illustrated content to the specified depth of coverage, their access to the material, texts, and infrastructure that are meant to aid the implementation of the curriculum, and their access to the required experts to teach the courses, as well as any other challenges associated with their ability to implement the curriculum fully.

### *Participants*

Participants for this study constituted 36 heads of units selected from six colleges of education nationwide. Out of the initial 36 contacted, 25 were available for the semi-structured, in-depth interviews conducted. The number aligns with the recommended number of 2-25 participants selected based on their experience of the same phenomenon (the B. Ed Curriculum) in similar environments (COEs in Ghana) (Alase, 2017; Creswell & Poth, 2018). Five of them are female, while 20 are male. They fall within the age ranges of 40-44 (6), 45-49 (8), 50-54 (6), 55-60 (5). Out of the 25, five have been in the teaching field for 14-20 years, while the remaining 20 fall within the range of 21-31 years of teaching experience. In addition, out of the twenty-five participants, Mathematics, Languages, Creative Arts, and Social Science each had four participants interviewed, while Science and Education had three and six, respectively. It is important to note that the years of teaching experience are not all at the college level. All the participants have journeyed through teaching at the basic and secondary levels before attaining their current status as teacher educators in the colleges of education.

*Data Analysis*

Thematic Analysis (TA) is apt for "open-ended responses from … transcribed interviews … [that] explore[s] the context of teaching and learning at a level of depth that quantitative analysis lacks while allowing flexibility and interpretation when analyzing the data" (Castleberry & Nolen, 2018, p. 808). It is also "an accessible and flexible method to analyze qualitative data collected in the natural classroom setting" (Xu, W., & Zammit, K., 2020, p. 2). These qualities make TA an appropriate one for this study as it explores the challenges that teachers face in their classrooms in the context of teaching and learning of the B.Ed. Curriculum in Ghana. After familiarizing with the transcribed data, initial codes were derived from the study's objectives. Therefore, information provided by participants was coded under six different codes, and these codes were further developed into themes. Coding was program-based (Science, Math, Creative Arts, Education, Social Sciences, and Languages) to identify distinctive challenges to these programs. These were then analyzed across the different programs and colleges to arrive at general findings – that is, challenges that all programs and colleges share, drawing on the essence of experiences within phenomenology (Alase, 2017). This is principally important as it strengthens the recommendations made at the end of the study.

Finally, in reporting the excerpt from the interviews, there are six colleges coded using m, n, o, p, q, and r. Consequently, there were six heads of department for Mathematics, English, Science, Social Science, Education and Technical/Vocational. These were coded as ma, en, sc, ss, ed, and tv respectively. Finally, Tr represents 'tutor', which is the name given to teacher educators teaching in colleges of education in Ghana. Thus, TRmma stands for a tutor in college m for mathematics. TRnen stands for a tutor in college n for English language. Hence, the last two letters represent the subject.

*Researchers' Bracketing*

In IPA, researchers must "first describe [their own] personal experience with the phenomenon under study. The researcher [should] begin with a full description of his or her own experience of the phenomenon" (Creswell, 2013, p. 193). Therefore, all three researchers are Teacher educators at the University of Ghana, who also teach the curriculum and perform various mentoring and advisory roles at colleges of education in the country. In our experience, the curriculum objectives to develop creative, problem-solving, and development-oriented teachers are laudable. While the objectives of the curriculum are attainable, certain challenges affect the fidelity and successful implementation of expected outcomes. While our experiences with the curriculum may be like our participants in this study, the context dynamics – university versus COEs – account for variations in interpretations and meanings that participants make of the challenges discussed in this study. Additionally, it is important to mention that the findings reflect the true lived experiences of participants.

## Findings and Discussion

As discussed in the introduction, the objective of this study is to understand educators' engagement with the manuals, access to reading materials, time management, access to needed infrastructure to teach the curriculum, and finally, the availability of human resources with the expertise to teach the courses as outlined in the curriculum through the CBAM model. Overall, all participants acknowledge the value of the new curriculum document as it aims to improve teacher education by developing teachers with 21st-century skills who are gender, equity, and socially inclusive in their practice and who can critically think and bring problem-solving approaches to all situations. However, the curriculum and its implementation are not void of challenges.

*Engagement with Course Manuals*

All the teacher educators in this study explained that course manuals for the curriculum guides the teaching and learning process. This finding is in contrast to the work of Mithans and Grmek (2020) on the use of textbooks in the implementation of a curriculum in Slovenian primary schools, which showed that teachers use the textbook in teaching and use it as a guide only when they have to administer the assessment. The contrast in the finding may be due to the general perception that textbooks are more prescriptive at the lower level; hence, it is used for actual teaching and learning at the primary level (Mithans and Grmek, 2020), whereas at the tertiary level, as shown in the present study, it is employed as a guide.

Again, related to content, various heads of departments raised issues about inconsistencies in the content for courses, issues associated with the lack of scope or undefined parameters, overloaded content, very narrow content, and repetition across various levels. However, there are distinctive issues for specific departments. For example, heads of units for the Languages section raised concerns about content overload, mismatches and inconsistencies between course descriptions and content, and repetition in the manuals. As TRmla explained,

> *When you look at the first year's content, it is overloaded and all ...There is no way one could finish the first semester's content within the semester unless you told us to rush the topics, and we can't teach French like that since it is a foreign language. The way the curriculum is done, there are some repetitions [across courses] that make it look bloated. Depending on the number of weeks students have to sit in class and the periods allocated, they can adjust the course outline accordingly.*

Therefore, there is a general perception that the curriculum is overloaded, and as Eduwem and Ezeonwumelu (2020) affirm, most contemporary curricula are overloaded due to the need for curriculum developers to expand the curriculum. Although the curriculum is overloaded, the French departments decried the absence of communicative competence and adequate grammar components: TRmla indicated "*I want to state that the courses we are teaching are not oral-oriented French courses; they are technical courses like literature and methods of teaching and assessing French."*

This absence has implications for the caliber of French teachers produced at the program's end. This implication is also exacerbated because the curriculum lacks the immersion "year abroad" component usually present in all degree programs. To address this deficit, French departments in some colleges use volunteers from the French Embassy, as illustrated in this statement by TRmla, "*We even have a volunteer who is a francophone helping us during supplemented periods to take them for orals."* Again, the French department questioned the reasoning behind writing French manuals in English. This makes their work difficult as they have to translate course content into French to teach. TRMla questioned:

> *When I look at the curriculum for French, almost all is done in English, but how are you, the French teacher, going to teach topics and only some aspects are in French, and at the end, are you making me a translator?... All of us are not translators. I haven't studied translation; I only did it in my first degree, and I wasn't good at it. It doesn't mean that when a topic is in English, I can't translate it, but how efficient will it be?*

For teacher educators within the Ghanaian language unit, the positioning of Ghanaian language training has an impact on the preparedness of student teachers to teach early grades. TRqla explains:

> *When you come to the Ghanaian language, I believe the curriculum in the basic school should at some point use the Ghanaian language, at least in explaining some of the key concepts in the classroom. But you realize that some students are not even*

> *learning the Ghanaian language. The Ghanaian language is paired with some of the English courses, so it's optional. The students are to do English or come to the Ghanaian language class, but you will get the last hour, l am talking about primary and early grade. There are some courses that are Ghanaian language courses that are made compulsory at the last hour, so a student who decides to go for English courses at the beginning and getting to the last end a Ghanaian language becomes a compulsory course for the person, how is that person going to even read and write the Ghanaian language?*

In a country where the majority of rural and peri-urban students do not speak English before starting school, the importance of Ghanaian language teaching for preservice teachers, especially in early grade, cannot be overemphasized when the numerous gains of using a first language in early years of education have been severally documented (Owu-Ewie, 2006; Wornyo 2015; Yevudey & Agbozo, 2019). Even more so, Ghana's language policy of education recommends using the first language as the language of instruction in the early years of education.

Furthermore, issues were raised about broad contents with no indicated limit for the Math and Science department[*]. Thus, teacher educators arrive at varied scopes based on individual decisions. This breeds inconsistencies in what is taught across the various colleges, and this ultimately has implications for assessment because students at colleges of education sharing the same affiliated university write uniform exams, as emphasized by TRosc "*When you look at the content, you can't see how far you can go… Some teachers may just scratch the surface of topics, while others may go deep into them... So, there is no consistency"*

The math unit also bemoaned instances of reverse order in progressive content. TRnma complained

> *I will go back to the measurement of shape and space once again. I saw something where the 3D shape was handled before the 2D shape… I don't know how that is being taken because I believe that it should be a 2D shape before a 3D shape.*

On the other hand, the Science department participants explained that their content was very narrow, with repetitive strands across the various levels. Additionally, they draw attention to the fact that a lot of topics covered at the basic school levels are not currently covered in the current curriculum; these should be introduced into the curriculum to replace the repetitive content. TRrsc stated:

> *I've realized that some of the strands are repeated as and when they move from one level to another, and I believe there are a lot of topics in the basic school curriculum that we can include in what we do at our level.*

This was reiterated by TRqsc:

> *It means that there is content that potential teachers, or, let's say, aspiring teachers, will cover at the basic school level in the integrated science field, but that is not necessarily covered in the current curriculum for the sciences.*

Also, there is no course manual for Level 300 assessment strategies as reported by TRosc *"You could check Level 300, assessment strategies in science; the manual provided is only one sheet. You could see that the details are just not there."*

The Creative Arts departments, on their part, raised concerns about the compressed nature of the curriculum that removes the

[*] Math and science are discussed together in this section because of the common issue raised. One quotation is used to represent this experience.

opportunity to carry out practical activities as explained by TRotv

> *... the core courses in the first year give us only two weeks each. Every teacher has a slot to go and teach these students, and some are primary specialism while some are JHS specialism. For the first year, they are all combined. The only thing is that it is too scanty for the primary educators because they have only one subject, which is art-related.*

The issue of limited time for practical engagement of the Creative Arts curriculum requires immediate attention as it is the core of any Creative Arts program. This is because practical engagement with content has been shown to improve preservice teachers' confidence, teaching strategies, and teaching skills (Alter, Hays, and O'Hara, 2009; Russell-Bowie, 2009). More importantly, preservice teachers must be sufficiently equipped to teach the Creative Arts because it is critical to providing holistic early and primary education (Nilson et al., 2013; McArdle, 2001).

Secondly, because of the overwhelming multidisciplinary course content, the heads of department explain that first-year students within the primary specialism do only two weeks of creative arts to make way for instruction on topics from other blended content. Similarly, within the second year, student teachers have only one optional arts course available. Thus, there seems to be a deficit in preparing student teachers to teach arts at the basic school as explained by TRptv:

> *So, if you understand what I am saying, we have the creative arts aspect, the actual practical, mixed with Technical Skills, mixed with Agriculture, Home Economics, and all of that. So, it means that we don't have time to focus on the creative aspect.*

Furthermore, there is inadequate content due to the amalgamation of the Food and Clothing specialisms instead of individual ones. Challenges associated with the integrated nature of the Creative Arts content are common with multidisciplinary programs (Jones, 2010; Giddens & Morton, 2010; Gooder & Cantwell, 2017; Repsha, 2020). For instance, multidisciplinary tends to result in a lack of interest and expertise in the component fields, repetition or overlap in content, etc.

Regarding blended pedagogy and content within the curriculum, there are split perspectives on its advantages and disadvantages. For some participants, the blended approach is valuable as student teachers have real-time engagement knowledge on pedagogical strategies that work for specific content. According to Castle (2006), blending content and pedagogy improves the overall potential of the teacher. However, other participants explain that there is a need to differentiate pedagogy based on the area of specialism and that the blended approach does not make room for this differentiation to be fully explored in the classroom. Again, they find that some teacher educators simply gloss over the pedagogical or content aspects depending on their expertise and preferences. Finally, it is also important to note that heads of departments and teacher educators do not have a clearly defined mechanism for reporting concerns on the curriculum, which has implications for curriculum review and improvement.

**Access to Reading Materials**

Generally, teacher educators bemoan limited access to recommended reading materials and CDs (Language) of the various courses and programs. For example, across the colleges, libraries were yet to be stocked with current books for teaching the new courses. Thus, teacher educators seek materials online or use alternative reading materials. However, using alternative textbooks rather than the recommended reading materials can also hinder the effective implementation of the curriculum because the alternative materials do not always have the same quality and content as the recommended material, thereby affecting the quality of the teaching and learning experience. Using non-approved

reading materials has dire consequences on the quality of teaching and learning (Fordjour, 2021). In addition, teachers from different colleges may use different materials, resulting in differences in the content. Meanwhile, the new curriculum seeks to encourage the teaching of uniform content.

Sometimes, teacher educators depend on their copies, which they then make available to students through photocopies. This was expressed by TRqla,

> *for me, I don't have a problem with the text because when I was in the university, I bought books, so I have my own library in my room. So, it is difficult to see any of the recommended text that I can't find in my room. It is important to note the copyright implications for photocopying.*

In addition, language and creative arts teacher educators also developed reading materials as alternatives, as explained by TRqla:

*But in areas that you can't find materials online, then l ask them to make their own notes. But because the materials are also not common. I usually prepare books which I sell. Not to them alone but all teachers on the field who need the materials in Ewe*

**Time management**

Another challenge teacher educators face in implementing the curriculum is the limited lesson time. According to the teacher educators, the three hours provided each week is grossly inadequate considering the scope of the content recommended. TRnma explains:

> *... the current one [curriculum]because of the time frame and the content that you have to teach, you spend more time to do all of it, but the time is also very limited... but the previous one, aside from your 3 hours for the content, you also have another 2 or 3 hours for methodology.*

Teachers of the Creative Arts also pointed out that the multidisciplinary nature of the course requires more time for teaching the various aspects of the course, which affects the extent to which the scope of each of the aspects is taught. TRptv observes:

> *On the part of Creative Arts, what I realized is that because of the merging aspect of the creative activities with other courses, for example, in the first year, we have social studies merging up with Agric, Home Econs, and other technical courses, so it is somehow not making the subject or the content itself to be so much broadened and taught as it is expected of us.*

The limitation in time does not only affect the scope of the content taught but also affects the teaching of the practical aspects of the course as described by a TRptv in the following excerpts:

> *I've seen that there's no time that is always available to make the content real practical to the student. So, in that case, it is always difficult for us to be able to give much elaboration to the content itself.*

Integrating content and pedagogy for each lesson worsens the time allocated for teaching. English and Creative Arts teacher educators also complained about the first-year content being too loaded. Consequently, participants pointed out that their course content is so heavily loaded that teacher educators must devote extra hours outside the recommended teaching time to cover the content adequately as experience by TRntv:

*Sometimes, I meet them on Sundays, too. Sometimes I will just organize someday, say Friday at 4 O'clock, let's meet and do something. Other times too, when they don't have lessons or maybe if they have time in the evening.*

Additionally, teacher educators have difficulty managing time because parameters for content are not well defined. Thus, teachers depend heavily on the school's departmental-based personal

development sessions and workshops organized by their mentoring institutions to determine the scope of their weekly content. However, these interventions are not always organized in good time ahead of teaching a new course.

**Teaching and Learning Resources**

Across all the colleges, our participants raised serious concerns about the lack and inadequacy of teaching and learning resources. Table 1 outlines the needed resources for the major programs of concern – Creative Art, and STEM fields.

**Table 1. Lists the various teaching and learning materials needed for the various programs**

| Course | Teaching and Learning Resources Needed |
|---|---|
| Mathematics | Board instruments, graph board, algebra tiles, diene's rods, Cuisenaire rods, balance/measuring scale, tape rule, mathematical software (such as GeoGebra, Fathom, Mathematica), solid shapes, manila cards, clipboards, place value abacus frame, |
| Science | Reagents, specimen (biology), manipulatives, activity kits, science consumables (such as pipets, beakers, burettes, syringes, test tubes, tripod stand, microscope slides, petri dish, etc.), |
| Creative Art (Home Economics, Visual Arts, Music, Food, and clothing (Agriculture) | Saucepan, sewing materials, art shade, ingredients, chemicals for dye, detergents, fabrics, sewing materials, fashion designing software, needles and threads, chalk, scissors |

This lack and inadequacy of teaching and learning material has dire implications for the successful implementation of the new curriculum. For instance, the teaching becomes more teacher-centered as students lack adequate resources to try what is taught in class. In a science class, because of the lack of adequate experimental apparatus, students must watch experiments performed by their teachers instead of trying out their own. Similar sentiments are shared by Nsengimana (2020), who argues that the lack of teaching and learning resources affects creativity and innovation. However, teachers find innovative ways of navigating some of these challenges as observed in this study. TRptv *Because we don't have a full resource center, it becomes very difficult, even to get a thread. For that one, we organize and get our own thread and come and use them for the demonstration*. Nsengimana (2020) warns that the lack of resources can also stifle the practical aspect of a curriculum altogether, as certain practical aspects cannot be improvised if the needed resources are unavailable. The consequence is that the teaching becomes theoretical – something the new Ghanaian curriculum strongly discourages. This means that though the new curriculum may have "beautiful" goals, they may not be achieved if the needed resources are not provided.

*Infrastructure to Teach the Curriculum*

A major challenge faced by all departments in this study, and on a larger scale at various colleges, is the lack/inadequate infrastructure. Participants raised concerns about the infrastructure, which includes lecture halls, accommodation, labs, educational instruments/equipment, etc. Some of these are peculiar to specific departments. All departmental heads across the six colleges discussed challenges associated with students' accommodation and lecture halls:

According to TRmla:

> *When you talk of infrastructure, I don't know which college can boast of it, especially here. [As a result,] some of us are there for any batch that comes, and sometimes some are first years, and the first years when they come, we break them into smaller groups so every teacher educator has a set of students they can handle during the oral lessons, so you'd realize that every batch that comes, we have two at a time.*

This inadequacy has two pronged implications for teaching and learning. The first is the shift system which has become necessary to reduce the pressure on the inadequacy of accommodation and lecture halls. The second is the reduced contact time with students:

> *Instead of 16 weeks to have enough time to study and practice, now we have to rush through 11 or 12 weeks...*

The amount of time spent at home has and continues to prove detrimental to the ultimate goal of developing qualified teachers who meet the standards and puts a strain on the teacher educators who have to work all year round. Nsengimana (2021) made a similar observation in a study of Rwandan teachers who complained that the effective implementation of their curriculum was hampered by an increase in the teaching load. Consequently, lack/inadequate infrastructure affects teaching and teacher effectiveness.

Furthermore, for many of the departments across the colleges (4 out of six), the lack/inadequacy of projectors and access to the internet poses a challenge for technology and ICT components of the curriculum. This is further exacerbated by the unavailability of Public Address systems (PA). Participants discuss how these eat into instructional time and sometimes lead to non-completion of activities for a topic. TRmed shared:

> *You realize that this new curriculum is more or less interactive based where a student teacher is exposed to activities that he or she will be able to come out with the knowledge that they are seeking to, I mean unearth by themselves. But you realize that it is very scarce what will be used to help the learning or the teaching of the curriculum, which makes it more challenging. Then also, student-to-teacher ratio-wise, where a teacher will have to handle a certain number of students, that will not give you the opportunity to expose the learners to hands-on activity because sometimes, even though the content is practical-based, you are forced to approach the teaching in such a way that it limits student-teacher interaction with the content.*

However, the French department of two of the colleges have received computers and projectors from the French Embassy. TRmla shared:

> *In all aspects, there's ICT included. Given students a project work and presenting their work, they project their presentations; only a few of them have challenges with ICT, even the course rep provides help for them to project. In actual fact, our college here for French has been given projectors by the French Embassy; apart from that, the college gave us one, adding up to the two from the Embassy, which is enough for us.*

We now discuss deficits in the Languages, Creative Arts, and STEM departments for idiosyncratic infrastructural needs. Participants from the language departments across the six colleges explained their inability to build students' communicative competence in the various languages due to the absence of a language laboratory or a multimedia room. In particular, the French Department laments the double problematic nature of this situation since students do not get the opportunity to visit francophone-speaking countries as part of their training. Then, there is the added challenge of not being exposed to the language because of the absence of an audiovisual room with

television to connect to French channels. They are, therefore, concerned about producing French teachers who do not have communicative competence. TRoed explains:

> *And so what we do is that, at times, when the lesson is about to start, you can group them, and then you ask them to take their smartphones, and then you go to YouTube and find whatever you want them to look for if there is no projector for you to do it on. But if you know that particular topic is something the learners have to see, something they need to know, then you need to look for the projector. Yeah.*

Additionally, some colleges have developed collaborative relationships with individuals from Francophone countries who volunteer to support them in running their oral courses, as mentioned earlier in the "engagement with the manual" section.

On the other hand, the Creative Arts departments across all six colleges need laptops (for both teacher educators and students), which are essential to teaching and learning. The importance of ICT in Creative Arts education is emphasized by Zhou (2021), who argues that using ICT in instruction stimulates imagination, boosts interest, and enhances learners' creativity. As Zhou (2021) explains, the auditory and visual nature of computer applications helps students appreciate the beauty of art better, making it more tangible and interesting.

Similarly, participants pointed out that the lack of exhibition rooms to showcase students' artworks is demotivating and reduces students' interest. Moreover, the lack of resource centers also affects effective practical sessions for the Creative Arts. For example, students within the Food and Clothing programs do not have home economics labs equipped with cooking tools such as ovens, stoves, etc., or garment-making labs furnished with sewing machines, tie-dye makers, mannequins, and clothes-making equipment. TRntv from the Home Economics Department (food) laments:

> *And already part of our experiences also has to do with infrastructure like if you want to bake a cake like you don't have an oven…*

While TRntv from the clothing program discusses the benefits of such labs:

> *When they finish, they will know how to cut a simple top, a simple straight dress, or something like that. They should be able to. I (student) did Clothing and Textiles, and I can't cut. At least they should be able to do something small.*

Another important area of infrastructural need is the STEM field. The lack/inadequate infrastructure (storage, math lab, multipurpose labs for chemistry, biology, and physics) works against the government's efforts at improving enrolment in STEM because, despite the increased enrollment, the country cannot boast of expert graduates when basic infrastructure critical to these fields have not been provided. One cannot underestimate the severity of this issue – even in situations where labs are available, they are inadequately furnished or sometimes converted to lecture halls to make room for the growing number of students. Iterations of these concerns by participants are shared below by TRosc:

> *When I came, they said there was a place like that, but it was not in any good condition, so the principal took it upon himself to refurbish it, but they made us to make a budget on several occasions, and we were told our mentoring university was ready to support us to buy certain things and until now the lab has been renovated, but the lab has been turned into a class.*

Finally, in the Education department of one of the colleges, the Special Needs Education program is not being run due to the lack of resources needed to prepare student teachers to meet the needs of students with special needs. The TRoed explains,

> *Yeah, we're doing Special Needs Education in my department. We don't have those facilities because last semester like this, students were supposed to do what we call communication skills and then, in the*

> *special needs area, sign language… which the teacher who specializes in that area has to take them through. But because we don't have this equipment, we are still not doing those courses ohh. Like sign language and those kinds of things. Because as we are training them and they are doing degrees now, they'll be going to the special schools…. But we don't have those things, ohh.*

This teacher is apt; government/policymakers are responsible for providing these facilities and more as they look forward to the products of the new curriculum.

*Expertise to Teach the Courses*

Overall, when it comes to expertise, most departments in all six colleges have adequate human resources with the expertise to teach most of the courses outlined in the new curriculum. However, for certain programs, specific expertise is needed. For example, in Languages (French), one college discusses the need for an expert in translation and another in language. Education programs across two colleges also expressed the need for more teachers. Additionally, in three Math departments across three colleges, there is a need for two additional Math experts, while in one college, there is a need for expertise in ICT. Finally, the Creatives Arts departments (three out of the four interviewed) explained their need for two experts in Music, two in Creative Arts, one in Food and Nutrition, and one in Management. Research shows that the success of any curriculum cannot be devoid of the role of expert teachers who can use the curriculum materials to transfer the content to students (Lochner et al., 2015; Pak et al., 2020).

## Conclusion and Recommendation

This article discusses the challenges associated with the implementation of the recent B.Ed. Curriculum in Ghana through educators' engagement/experiences through the CBAM model. The findings provide valuable information on teacher educators' challenges in working towards the national goal of producing innovative teachers. Examining this through the CBAM model, educators experience show an understanding of the innovation configurations (a clear picture of the objectives and rationale of the B.Ed. Curriculum), which is to develop teachers who can inspire learners and encourage 21st-century skills that include higher-order level ways of thinking, communication and collaboration, ICT literacy, and sensitivity to gender and inclusion (Erstad & Voogt, 2018; T-TEL, 2021).

However, at the *stages of concern* level, the challenges discussed provide curriculum developers and policymakers answers to why and how the curriculum will not achieve its high-quality implementation. These concerns are 1) the use of the handbook as a guide coupled with challenges associated with undefined scope or clear parameters of content, repetition, or overload 2) unavailability of reading materials and CDs; 3) complexity in managing classroom time due to loaded content and multidisciplinary nature of some courses; 4) lack of teaching and learning resources; 5) lack of infrastructure to teach the curriculum; and 6) inadequate human resources with the expertise to teach the various courses. Ultimately, the above challenges determine, at the individual and collective level, areas of the curriculum that are not being implemented due to the outlined challenges and the potential implications for students and the nation if the curriculum fails.

A general view that all participants arrive at in their concluding statement is summarized in this quote from one of them: *Yeah. And I was saying that with the program[curriculum], the program is a good program, but before a program can be well beneficial to the students as well the teachers, they need to provide resources to the Colleges of Education.* It is also important to note that despite these

challenges, teacher educators use problem-solving approaches to address some of the issues to successfully implement the curriculum – a phenomenon that reiterates Aspari's (2018) findings. Thus, this article contributes to the literature on current trends and practices in initial teacher education in African contexts as it highlights the challenges and subtleties of preparing the next generation of teachers while offering the following recommendations and solutions that have the potential to engender policy reform and curriculum implementation in Ghana and Africa. As Nanayakkara et al. (2017) explain, "teachers can provide solid input into their discipline-related curriculum based on their understanding of students, colleagues, school administration, and resources available to them" (p. 50). Therefore, policymakers should make immediate efforts to address these challenges. An approach to providing the needed materials and infrastructure is to build relationships with corporations, companies, and Embassies, as enumerated by some participants in this study. Based on the findings, teacher educators and researchers recommend the following:

1. The course structure/scope must be clearly defined in the manuals. The scope needs to be enumerated to enable the orderly coverage of the sub-strands.
2. Course contents that are loaded should be reviewed, or the academic calendar should be expanded to make room to cover all strands and sub-strands.
3. Courses that have narrow content should be expanded.
4. The blending of pedagogy and content within the curriculum should be varied based on the peculiarities of the various courses.
5. All recommended reading materials and CDs in the manuals should be provided.
6. Ghanaian language should be mandatory for all Early Grade and Primary specialisms from the first year.
7. The French program within the curriculum should be reviewed to ensure that the manuals are written in French, to create opportunities for students to develop communication skills, and finally, for a year abroad immersion program.
8. Teaching and learning materials should be provided for teachers to avoid using their salary to supplement school facilities.
9. Teaching and learning resources should be provided for all programs with practical components, i.e., Home Economics, Creative/Visual Arts, Music, Math, sciences, etc.
10. Infrastructure and educational facilities should be provided for stakeholders to achieve the curriculum's objectives. Examples include multimedia labs, multipurpose science labs, internet, computer labs, physical and digital libraries with recommended and supplementary texts, Home Economics, Math and language labs, garment-making labs, etc.
11. Finally, a reporting mechanism and procedures should be implemented for teachers to raise concerns and challenges.

## Limitations

Firstly, the study's extensive methodological approach is mainly reliant on qualitative data gathered through semi-structured interviews. This approach, while detailed, may induce subjective biases and restrict the generalisability of the findings. The study could benefit from using quantitative data to present a more balanced perspective. Focusing on specific obstacles like resource restrictions, imprecise course scopes, and time management issues is vital, but it may ignore other critical aspects affecting

curriculum implementation. For example, the study does not go further into the impact of external factors such as policy changes, economic situations, or technical improvements on the implementation process. The manuscript's ideas are practical but may not be easily implemented due to systemic constraints in Ghana's educational infrastructure. The report proposes improvements in resource allocation, clearer course structures, and improved time management tactics, but these answers necessitate large regulatory changes and financial investments that may not be viable in the short term. Overall, while the manuscript sheds light on the problems of adopting the 2018 B.Ed. curriculum in Ghana, its limitations underscore the need for additional research and a more comprehensive strategy to addressing these concerns.

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