Implementing Curriculum Change in Ghana: Exploring Teachers' Experiences with Enacting 21st-Century Pedagogies

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ABSTRACT

Research has long established that teachers' characteristics such as attitude, knowledge, and pedagogical skills are superior expediters of curriculum implementation. Following Ghana's recent introduction of a standards-based curriculum in K6 schools, we ponder how Ghanaian teachers are implementing change through their utilization of 21st-century pedagogies. We implemented a qualitative descriptive phenomenology research that explored teachers' experiences with emerging pedagogies. Twenty-one participants from four schools were observed and interviewed to reflect on their experiences and to facilitate a comprehensive description of the phenomenon. Having analyzed the data thematically, we observed that teachers adopt teasers, cooperative, experiential, and inquiry-based approaches in implementing the new curriculum. Regardless, the curriculum implementation is challenged by inadequate resources and teachers' personality and competency factors. We discuss these findings in line with Fullan's (2012) characteristics of change and conclude by categorizing our respondents along the line of an adapted Roger's (1995) diffusion model; innovators, early majority, and laggards. For this, we confirm that the difference among the three groups of teachers lies in their personal motivation to embrace change. We therefore recommend for innovative teachers be motivated, early majority teacher to be offered training and laggards to be effectively supervised for the attainment of the goals of the new curriculum.

KEYWORDS: Curriculum implementation, pedagogy, Africa, qualitative research.

School curriculum is the hub around which education revolves and a very important element of formal education. The essence of curriculum is evidenced in Bobbit's (1918) definition as a "series of things which children and youth must do and experience by way of developing abilities to do the things well that make up the affairs of adult life; and to be in all respects what adults should be" (p. 42). Thus, curriculum is constructed taking cognizance of factors that are present in society and how these factors change over time, such as the culture, the availability of resources, and the changing ideologies of a nation (Kombe, 2015). A crucial feature of curriculum encompasses its ability to evolve (Addai-Mununkum, 2020). Such evolution has historically characterized curricula reforms in countries across the globe. In recent history, curriculum reforms have engaged the attention of some countries. England introduced the statutory National curriculum in 2015 (Roberts, 2018), whereas a revision of secondary education curriculum

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happened in in France in 2016 (Gueudet et al., 2018). Other reforms include: the reformation of the Core-Curriculum in Finland in 2017 (Halinen, 2018); revision of 34 trade curriculum and introduction of trade and entrepreneurship curriculum Nigeria in 2017 (Igbokwe, 2015) and Kenya's competency based curriculum (M'mboga Akala, 2021).

Expectedly, Ghana like other countries has made significant modifications and adjustments to some aspects of its educational systems over the course of history (Adam-Yawson et al., 2021; Adu-Gyamfi et al., 2016). More recently, curriculum reforms in Ghana have been in response to global trends and changing expectations for manpower needs of emerging societies (Ministry of Education, 2018). The power of education in supporting agenda to transform the world has been evidenced in the adoption of SDGs and the global quest for equitable quality education and lifelong learning opportunities for all (United Nations Education Scientific and Cultural Organsiation, 2017). To this end, Education for Sustainable Development (ESD) promotes the realignment of school curricula towards achieving 21stcentury skills and competencies, such as anticipatory, normative, critical thinking, strategic, collaboration, self-awareness and integrated problem solving competencies (Leicht et al., 2018). In response to this global call, Ghana in 2019 introduced a new curriculum for its K6 schools with a renewed focus on competencies as the driving force of the curriculum. Mirroring the ESD competencies, Ghanaian learners are being developed to achieve six competencies: critical thinking and problem solving, creativity and innovation, communication and collaboration, cultural identity and global citizenship, personal development and leadership, and digital literacy (NaCCA, 2019). To achieve this, teachers are expected to utilize emerging constructivist pedagogies that are student-centered and participatory. The curriculum advocates stronger roles for learners but more importantly requires teachers to facilitate the process of learning through the creation of structures and conditions through problem solving, collaborative and critical thinking pedagogies (Ministry of Education, 2018).

Globally, teachers are important as they contribute greatly to the success of educational reforms (Smith & Desimone, 2003; Spillane & Callahan, 2000). Scholars have stressed that teachers' characteristics such as attitude, knowledge, and pedagogical skills are superior expediters of curriculum implementation (Ndirangu, 2017; Ramnarain & Hlatswayo, 2018; Saloviita, 2020). More recently, Kara et al. (2022), have found that "teacher self-efficacy has a full mediating effect between students' perceptions of learning experience and teachers' perceptions of 21st century skills and competence" (p. 20). Similar findings were observed in the works of Agormedah et al. (2022). It has also been established that educational philosophy adopted by teachers influence their pedagogical decisions and actions (see Alemdar & Aytaç, 2022; Koşar & Dolapçıoğlu, 2021).

Consequently, in a study to illuminate how ECE teachers in South Africa are responding to curriculum change, Clasquin-Johnson (2011) concluded that teachers reluctantly complied by mainly resisting, adopting or adapting curriculum change. A longitudinal study to assess teacher agency in Australia revealed that "teacher effectiveness in implementing curriculum change was shown to be heavily dependent on school leadership, teacher relationships with leaders and colleagues, school operational practices and school culture, as well as personal motivation" (Jenkins, 2020, p. 167). Rahman et al.'s (2018) study of Bangladesh teachers' implementation of communicative language teaching curriculum revealed that factors such as needs of classroom teachers, complexities regarding the mismatch of teaching syllabus and material with assessment, unequipped classrooms, and quality of teacher development facilities mediated their implementation of the curriculum. Diop (2018) studied teachers' implementation of curriculum in Senegal and reveals that contextual factors, including the prevailing educational culture, the established pedagogy for learning, and limited classroom resources made implementation so difficult. Vilches' (2018) study of Philipino teachers highlights the value of involvement of

teachers in curriculum development to helping teachers make sense of curricular changes and whipped-up support for implementation.

Following the leads of colleague scholars, we ponder how Ghanaian teachers are implementing the Standards-Based Curriculum (SBC) and how they are meeting its expectations through their utilization of 21st-century pedagogies in their classrooms. The focus on teachers is very crucial given that they are charged with the daily translation of the curriculum to instruction and their success or failure is directly linked to the outcome of curriculum implementation. It is essential to focus research on exploring the experiences of teachers' toward developing these competencies that seek to promote "lifelong learning, living and working" (Ministry of Education, 2018, p. 27).

Admittedly, our study is not the first to assess the implementation of the SBC in general. Agormedah et al.'s (2022) survey of 693 respondents revealed that teachers exhibited a moderate-to-high level of teaching efficacy in student engagement, instructional strategy, and classroom management in the implementation of the SBC. Relatedly, Ayebi-Arthur et al's (2020) study involving teachers from five regions of Ghana found that most of the teachers have high confidence in handling the revised computing curriculum of the SBC. Apau (2021) also studied teachers' concerns about the implementation of the SBC and found age and experience as some of the forecasters of teachers' concerns toward implementation. From the foregoing it appears studies conducted on the implementation of the SBC have focused on the concerns, perception, and efficacy of teachers without considering their lived experiences (Aboagye & Yawson, 2020; Mpuangnan & Adusei, 2021). While these studies are revealing, they fall short of evidence emanating from teachers' voices in describing their own experiences in implementing curriculum. It is important to direct a study that specifically investigates the experiences of teachers with curriculum implementation, but it appears research has shied away from this, leaving a yawning lacuna in literature. We consider it deficient to focus only on efficacy, concerns, and perceptions without highlighting teachers' experiences with implementing curriculum change. Thus, our work shifts the discussion from objective facts to subjective realities as we pose these questions: what 21st-century pedagogical approaches are teachers adopting and how are they enacting them in the implementation of curriculum? Answers to these questions are crucial towards generating knowledge about teachers' experiences, to facilitate future curriculum implementation decisions.

Theoretical Perspectives

This study is hinged on the Educational Change Theory (Fullan & Stiegelbauer, 1991). Fullan described educational change as a process that happens on a continuum of four broad phases namely: initiation, implementation, continuation, and outcome. Prominently, each of these broad phases also has factors affecting them. Initiation involves the introduction of change through education of implementers to understand the need for the change, setting of benchmarks for assessing progress, and the deployment of needed resources for effective roll-out (Fullan & Stiegelbauer, 1991). According to Fullan (2007), it ranges from several sources "single authority to a broad-based mandate" (p. 69). Implementation involves a "process of putting into practice an idea, program, or set of activities and structures new to the people attempting or expected to change"(Fullan, 2007, p. 84). Fullan (2007) describes factors that affect this face to broadly include characteristics of change, local characteristics, and external factors with their sub-factors.

The continuation step deals with following through decisions to the end. Fullan (2007) identified the factors affecting continuation are similar to the ones affecting implementation. Sustaining project funding and keeping principals and teachers on task are valuable pieces to complete the continuation phase (Fullan, 2007). The outcome of change may be positive or

negative depending on the factors preceding it. Ensuring active initiation and participation, applying pressure, support, and negotiation, and promoting interaction of all initiatives with the proposed change will yield the right outcome (Fullan, 2015).

Fullan's theory is particularly useful for understanding teachers' experiences. Fullan (2015) says: "change is what teachers do and think …It's as simple and as complex as that" (p. 107). Implementing a new curriculum is a change process for new and veteran teachers as well. It is thus important to observe and describe what they do with the change, and, what they think about the process. In learning about these experiences, we are particularly interested in the characteristics of change as described by Fullan (2007), as we examine how (dis)connected they are to the Ghanaian situation. Specifically, we will be examining whether teachers appreciate the need for change, their clarity about goals of the new curriculum, complexities of their experiences with the new curriculum and the quality and practicality of the SBC (Fullan, 2007). While examining these, we also explore the nexus among the roles of government and other stakeholders in the implementation process.

Methodological Considerations

Research Approach and Design

This article is an extract from a bigger project that examined teachers' development of core-competencies in learners. We approached the study qualitatively utilizing descriptive phenomenology as research design. Teachers' acceptance and use of the new curriculum provides a new opportunity to live a new reality where their previous skills and actions become less relevant. The process of learning "new tricks" and navigating changes necessitated by the new curriculum is an experience worth studying. In doing this, we were interested in depth more than breadth, focusing on fewer teachers whose experiences could be transferrable to other situations. For this, qualitative phenomenological design was very appropriate. By this design, we described teachers' experiences (the phenomenon) just the way they lived it while keeping the "voice" of the participants in the research without detaching their viewpoint through analysis (Giorgi, 2009).

Sample and Sampling Technique

The study was conducted in one of the municipalities in mid-Ghana. The municipality is made up of four circuits. To ensure a diverse pool of respondents, purposive sampling technique was utilized to select teachers from all the four circuits. Going by the tenets of purposive sampling (Shaheen & Pradhan, 2019), decisions concerning individuals to be included in the sample were taken by the researchers based on criteria including: teachers' classroom of practice, years of teaching and knowledge and experience with the SBC. Heads of schools were helpful in providing referrals and through snowballing, we recruited participants for the study. In all, we sampled twenty-one teachers from four schools for the study. This number is deemed sufficient for a phenomenological study (Creswell, 2013; Denzin & Lincoln, 2008). Having interviewed nineteen participants and realized the data began to repeat (Hennink & Kaiser, 2022) we interviewed the two other participants whose classes were observed earlier to determine if new themes may emerge. Realizing that all insights into the phenomenon had been exhausted with no new emerging theme, we ceased data generation on account of saturation (Hennink & Kaiser, 2022).

Data Collection Techniques

We employed semi-structured interview and semi-structured observation. By semi-structured interviews we did not strictly follow the formalized list of questions we had outlined (Gray et al., 2020; Rubin & Rubin, 2012). Instead, open-ended questions were asked to probe further the conversation when other comments were raised to ensure a comprehensive discussion. This helped to describe the phenomenon better without doubts of any uncertain responses. An interview protocol was prepared to guide questioning.

For our semi-structured observation, we focused on what we visualized and heard besides participants' responses. We observed teachers' instructional lessons in their classroom focusing on incidents relating to teacher competencies, twenty-first-century pedagogies, child-centered pedagogies, and teacher innovations. Although these pointers were of interest, we kept an open mind on other possibilities and observed other incidents of remote connection to the study.

Ethics and Rigor

We followed ethical principles laid out in the University of Education Winneba's research ethics policy which included: securing informed consent from all participants, protecting confidentiality, anonymizing participants' identity through pseudonyms and protecting research data from unauthorized access through data encryption. Lincoln and Guba's (1986) and Guba and Lincoln's (1994) criteria for trustworthiness was ensured by instituting the following strategies. We spent a period of three months in schools to generate data (prolonged engagement) and member-checking to ensure credibility of the research. We kept an audit trail, noting significant activities relating to the study to ensure dependability of the findings. To ensure transferability, we provide in this report a thick description of the phenomenon under study (Shenton, 2004; Stahl & King, 2020) to contextually situate our study to help readers have an adequate understanding and then compare instances of the phenomenon described in the researcher's report to those that may or have emerged in their situations. To ensure authenticity (Guba & Lincoln, 1994), we selected information rich participants and provided rich detailed descriptions to fairly and completely show a range of different realities that realistically convey participants' lives (Polit & Beck, 2014).

Limitations

Throughout the process of data generation, we were surprised at how participants were apprehensive about being recorded. There was a bit of hesitation anytime the participants saw researchers engaging the audio-recorder app, taking pictures, and writing notes. Despite all the ethical protocols which included informed consent and assurances of confidentiality, some of the participants showed signs of worry that the data might get into the hands of their superiors, and they could be victimized. This might have been occasioned by the fact that, the implementation of the new curriculum in Ghana has attracted subtle political colorization. Critiques and praise against/for the curriculum is sometimes construed as opposing and supporting the governing party respectively, making the subject unusually sensitive. We worry that this sensitivity might have prevented participants from freely expressing their views and could have led them to provide some socially desirable answers. We surmounted this by consistent reassurance of confidentiality and anonymity. Future researchers ought to be guided by this experience.

Data Analysis

Data generated included hours of interview data (in audio file). We manually transcribed the interview data utilizing F4, a data transcription software. As we did, we also translated portions of interviews where participants spoke Twi (one of the indigenous Ghanaian languages). In analyzing our data, we utilized a seven-step process which included: Familiarization, identifying significant statements (coding), formulating meaning, clustering themes, developing exhaustive description, producing fundamental structure, and seeking verification of the fundamental structure (see Colaizzi, 1978; Gläser & Laudel, 2013; Jones, 2023). Through these somewhat iterative processes, we derived findings that are discussed subsequently.

Results

A key interest of this study was to learn firsthand how teachers are enacting twenty-first century pedagogies. According to Fullan (2015), the fundamental purpose of education is to make a positive "difference in the lives of students and to help produce citizens who can live and work productively in increasingly dynamically complex societies" (p. 4). Currently, the purpose of education in our twenty-first-century era is to equip learners with skills that will make them functional in society. To achieve this, teachers are encouraged to adopt pedagogies that help students to thrive in today's dynamic world (Griffin & Care, 2014). Given that twenty-first century pedagogy is a relatively new phenomenon, and it is yet to be institutionalized, it was important for the study to assess how teachers were enacting it in their practice. Observation and interview data were the main sources utilized here. First, we provide an ethnographic narrative of teachers' use of brain teasers to ignite learners interest and to stimulate critical thinking.

Brain Teasers

Gregory began his lesson with a math teaser. He drew a triangle on the board and asked learners to identify the number of triangles found in the diagram. The class stirred as each learner was eager to provide an answer. Though all the learners had the total number of triangles wrong, their 'failure' did not dampen their spirits as further attempts were made to suggest an answer from their own point of view. The cacophonous shouts of "sir me, sir me" was to cause the teacher to call them to the board to give evidence to back the various answers they mentioned. When called, learners came to the board individually to justify their answers to the teaser. The learners with all their justifiable responses could not correctly answer the number of triangles, Gregory came in to indicate the total number of triangles was 18. He illustrated how he arrived at number 18 on the board and the entire class chorused "ahaa" in agreement to the answer stated. After the math teaser, Gregory introduced *compound sentences* as the day's English lesson. Vanessa used a starter for her lessons too. One of the starters included a musical-physical activity: "Take your hands up, and put them sideways, and put by your side take your hands forward (2 times). La la la la, laal aa laa la la, la la la la la, la la la la la." Some learners were seen pointing in the right and wrong directions especially when they had to sing very fast. After this activity, the lesson in English centered on dialogue. Clara also began with the starter: "Down together up, down together up. Down together, down together, down together up." Phonics was written on the board with a couple of words on '*n*' that were drawn from the words in the starter.

According to Aliyari et al. (2021) brain teasers boost the functional ability of the prefrontal cortex, which plays a vital role in cognitive abilities such as thinking, decision making, concentration, and problem-solving. It also improves concentration, stimulates creativity, enhances the thinking process, and improves memory and concentration. Yet, the use of the math teaser before starting the English lesson somehow created a disconnection. Gregory confirmed the math teaser he used had no connection with the subsequent subject when he noted: "… I was going to teach English, but I drew this triangle. It doesn't have any link with what I was going to teach, but I just used that to sustain their interest." This ingenuity was obvious in the other classes observed. The right balance of incorporating an appropriate teaser for a lesson is encouraged; word puzzles or vocabulary riddles for English, math riddles or math story-problems for numeracy or mathematics (Farmonov & Karimova, 2023; Nair, 2020).

According to Koberstein-Schwarz and Meisert (2022), deliberately employing starters is greatly beneficial to the learning experience. Using starters, twenty-first century skills are unlocked while beginning the lesson through problem solving, participation, connecting previous lesson content with the current (critical thinking) and ultimately, learner readiness. The use of the starters therefore ensures they are challenged for the lesson ahead and gradually eased into the development of the stipulated competences effectively. As teachers and educational researchers, observing teachers use brain teasers and starters in Ghanian classrooms was a pleasant surprise. Traditionally, teachers will come to class and the first thing is for them to write the subject, topic and date on the board, and students respond by copying to their notebooks. The closest to student engagement one is likely to witness will be teachers' review of students' previous knowledge through questions and answers. Seeing some teachers use starters and brain teasers was an interesting change to observe.

Cooperative Pedagogies

Besides the use of teasers, teachers we observed also utilized varied forms of cooperative pedagogies. By cooperative pedagogies, we mean instructional paradigm that creates spaces for learners to be co-creators of their own learning through deliberative conversations (Bargerstock et al., 2017). We observed such opportunities in Gregory, Gabriella, and Penelope's classes. After the math teaser, Gregory introduced compound sentences as the day's lesson and encouraged the learners to give examples using the coordinating conjunctions; *yet, but, when*, and *whilst*. Gregory utilized group activities and presentations. He formed groups and had them choose names of some of the television stations in Ghana: *TV3, Adom, Atinka, GHOne, Power*, and *Onua.* Each of the groups went to work together and then selected one of them to present on behalf of the group. Each group was to have a leader, a secretary, and a spokesperson. For the presentations, the groups defined compound sentences and gave examples. Some examples generated included:

TV3 Presenter: "My mother bought me a book. My friend stole it".
"My mother bought me a book, but my friend stole it".

Adom Presenter: "We were going home. My mother told me to go and buy medicine".
"As we were going home, my mother told me to go and buy medicine".

The lesson was interesting. All the learners were excited and participated in the lesson by providing their own examples. The presentations by the various groups also aroused learners' interest as members in each group were working diligently to generate their sentences for the group to be applauded by the class. The creation of groups by some of the teachers exposed learners to taking up roles to equip them with leadership skills.

Gabriella also gave learners mathematics assignments in groups. The names of the groups were: *Violet, Tulip, Orchid, Rose,* and *Lily* (pseudonyms applied). The lesson was about sets and she tasked groups with specific problems to solve, and then returned to share their answers with the entire class. In solving the mathematics questions, each group selected a member who worked out the answer on the board as the whole class determined if it was the right answer. Laila also utilized groups in her classes. She believed group activities provide enormous benefits to learners' development of competencies: "when there is a group work and the child is able to participate, then there has been a collaboration," she said. Notwithstanding the difficulty due to the class spatial distribution, George utilized groups and his classroom was arranged to facilitate that:

> *...we're managing. As you can see, children are arranged in groups (pointing us to the arrangement in the class). What we do in the new curriculum is allow learners to go into groups, understand the concept very well, and learn from themselves. We have realized that learners when they learn from themselves, it's better than the teacher always giving what we call the lecture method, which does not benefit the children a lot. But learning from themselves, they can explain concepts to each other so that's how come we have arranged them this way so they can do things in groups, so that they can learn from each other.*

George was not alone in appreciating the paradigm shift in pedagogy occasioned by the new curriculum. Two participants also shared their opinions on learner-centered approach to teaching: "[Teaching now] involves more of the kids than talking and talking. So, you could see, I was asking questions throughout all the lesson" (Alice).

> *Right now, the basic strategy is to make the teaching learner centered. So, all activities that will make the learner inclusive in the process, that is what we're adopting. Grouping the learners in carrying out certain tasks. It also involves giving them more research work.* (Pamela)

Kline and Vermette (2017) indicated cooperative learning is one of the outcomes that improves twenty-first century skills. Cooperative learning involves learners working in small groups to find solutions to problems, create projects as well as analyze situations and the appropriate measures to go about them (Kline & Vermette, 2017). Through these groups, each learner develops respect for one another (personal development), vocabulary acquisition (communication skills), creativity on tasks (innovation), understanding individual diversity (cultural identity), as well as interdependence which are crucial elements to determining functionality in today's workforce. It was heartwarming to see George, Pamela, Alice, Laila, Gabriella, and Penelope utilizing these cooperative learning strategies which were not commonplace before now.

Experiential Learning

Vanessa, in a science lesson on materials, took the learners outside the class to identify and mention some items they saw and examine the type of material used in making the particular object or item. She also gathered the learners around a car. She asked learners to identify the materials used in making it. After this, she indicated that some objects can be made up of more than two

materials. For Clara's *Our world, Our People* (OWOP)[2] class, she matched learners out of the class after teaching them a song about Ghana. The song was: *6th of March 1957, Ghana Independence Day.* She explained that during independence, people across the various regions march to commemorate the day but on a bigger field with a lot of dignitaries. To give her learners firsthand experience of such a programme, she took them out to the field, where they sang and marched to the song, she had taught them.

In spite of the benefits of experiential learning, Carolina indicated the Covid 19 pandemic has restricted learners' first-hand discovery of some activities. The view she held was:

> *Should I shift the blame on COVID something something? [sic] Formerly, there were cultural activities among schools, but here is the case this new curriculum came to meet this Covid, so it just closed down every activity. So, whatever the child is learning, either it is a video that the child learns from that is based on global either than that, the normal routine of having cultural activities where the children are exposed, it's no longer there.*

Carolina here expresses her frustration with Covid 19 that had imposed restrictions on activities such as cultural performances. To her, watching videos cannot be substituted for real experiential learning and yearns for opportunities to offer learners more authentic experiential learning. Kolb (2014) says experiential learning means creating knowledge through a transformative experience. According to Bailey and Lee (2020) experiential learning helps learners practice concepts by direct engagement rather than the abstract conceptualization of ideas. This boosts their problem-solving skills, aids the development of life skills such as teamwork and communication through interaction with other students in the learning environment. These practical activities also enhance learners' innovative abilities. Fullan (2015) suggested equipping learners with twenty-first century skills help them become productive citizens. Before the teacher can offer learners skills relevant to the twenty-first century, they need to have their own expertise and experience.

Inquiry-based Learning

This approach situates the learner at the center of the learning and teaching process by seeking explanations (Gholam, 2019). Learners therefore are expected to take charge of their learning through posing, investigating, and answering questions (Caswell & LaBrie, 2017). Carolina attested to using this strategy:

> *Discussion methods, you can even use brainstorming; when you ask a question, the child is supposed to think and bring out the answer. In the discussion method, what do you think we should do to this to get this? So, they'd think and bring out the answer. More or less, the child is doing almost all the work in the class. The teacher just poses the question, the child does it. So, when it comes to oral, the child has to answer orally. So here it brings out their fluency abilities. Being able to express themselves also comes in and that one too is linked to being creative.*

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[2] OWOP – Our World, Our People, is a new subject introduced as part of the curriculum reforms.

Carolina appears to rely on learners' contribution in discussion to facilitate their communication and collaboration competences. Eli corroborated the use of this approach and further highlighted its significance in promoting critical thinking and problem solving. He disclosed using "questioning or enquiry to make them think. That's asking to know why they said something." We observed Phoebe's history lesson and noted this episode that is worth reporting:

Learner: Madam, Is Indonesia the same as India?
Phoebe: why do you ask?
Learner: it's like it has the same pronunciation (the class is stirred with murmuring)
Phoebe: **(as she turns to the whole class)** what is the murmuring about? **(Turning to the learner)** No, it's not the same; they are on different continents. But spell both countries and see if it's the same as you said.
Learner: **(looks upwards with index finger on the chin,)** ah haa, no madam.
Phoebe: are you sure?
Learner: Yes, madam. **(Phoebe: why?)** because the pronunciation is not the same**. (Another learner quickly interjects and says:** the spelling is not even the same**).**
Phoebe: okay, that was just by the way. Let's continue our lesson.

In this interactive moment, though the teacher quickly answered the question, there was room for the learner to investigate. The learner was in charge of analyzing the sounds of both words to confirm the conclusion made was appropriate. Traditionally, the teacher would have just given a simple answer of *yes* or no without probing to find out more about the reason for the question. We admired Phoebe's response and how she scaffolds the learner to arrive at the answer by herself.

Challenges

While it is heartwarming to observe teachers embrace and implement new pedagogies, it is not all rosy for them. This was not too surprising to observe because as Fullan (2012) suggested, education reforms are "hard to conceive and even harder to put into practice" (p. 46) even the simplest innovation in the learning environment is difficult (Fullan, 2007).

One challenge we observed was the teacher factor. The teachers we interviewed complained about their inability to do things the way they wanted because of deficiencies in their own skills and competencies. For instance, Phoebe believes she has minimal skills in creativity, challenging her ability to develop some competencies:

> *Creativity… in fact, I did not study anything about visual art, (pause) creative (pause) so, in fact, Creative Arts I'm not teaching. What I've been doing is, I'd just be picking the history in it but when it comes to the sculpture and those things, Me, I don't know anything about it. so, I don't venture. … yes! I don't have knowledge of creative arts. [oh! me koraa mennyɛ creative] oh! I'm not creative myself.*

Expectedly, teachers are to exhibit life-long learning competencies so that they can stay updated. This is still a challenge for some teachers. Patience admitted to the need for this*:* "[as a teacher] you have to do very good research to be able to conclude what you want to let them know." This for her was not very easy and most teachers do not want to do that. Consequently, the new curriculum demanding this of them was a challenge. The fear is that some teachers will stick to their old practices and teach outdated content.

Worse, there were teachers who did not appear to know much about the curriculum reform and showed no interest in knowing about it like Clara, for example. When we asked her about the core competencies of the curriculum, she responded:

Interviewer: So, what do you know about the core competencies
Clara: Me, I don't know ooo (she pauses for 10 seconds and continues) I don't know about any core competencies.
Interviewer: please, did you attend the training on the new curriculum?
Clara: Yes, I did, but I did not attend the one for KG teachers… They said they are changing the syllabus and textbooks, that is what I heard.
Interviewer: so, the syllabus that has changed what is new?
Clara: At first, we had topics in the old syllabus but now we have strands and then substrands as subtopic.

While we were not too surprised at the responses from Clara, we were more surprised to hear that she attended the training programme for the new curriculum but did not learn about the core competencies. This raises questions about the quality of the training programme that was organized and whether the expectations of those programs were achieved. Other teachers shared insights that showed that the training was inadequate: "I think a lot more training is needed since after the training there was COVID" (Vanessa).

> *The training we went to was just about one week so it was left for us to study the syllabus and how to implement or go about it. Yes, we did not get much details when we went to the training.* (Phoebe)

While Phoebe and Vanessa admitted that some form of training was offered them, they expressed how inadequate it was in terms of the duration and also the disruption occasioned by Covid-19. It is very worrying to appreciate that there could be thousands of teachers like Clara in classrooms across Ghana who might have (or not) attended training, and still demonstrating no change in their way of teaching. This implies that in those classrooms, we cannot guarantee that learners are developing these competencies.

Resources

Another factor challenging teachers' use of 21st-century pedagogies was related to the various resources or materials that support learning and teaching in the learning environment. According to Evelyn, the unavailability of resources is hindering the smooth implementation of the curriculum:

> *It is not easy at all(repeats). Because if I'm teaching and I say go to this side and everything is in front of you, it won't be difficult but here's the case the teacher will be holding the thing, without allowing the children to see maybe going round and time will be wasted. It wastes time.* (Evelyn)

Having enough resources so that learners would not have to queue to use them was Evelyn's desire, but it is not happening in her classroom. Resources for learning are either non-existent or in fewer quantities, forcing teachers to waste a lot of valuable time. Carolina also shared a similar thought about limited resource in terms of time:

It is not easy. Some lessons require you to teach a song. Imagine teaching these children a song; before you realize, the whole period has passed, eating into the next lesson. Before you start that lesson, its first break and you haven't even done much. So, it's not easy o.

Carolina was not alone with the concern about time. Penelope observed during her English lessons that she does not have enough time left to engage the learners, saying, "with reading, I'll do the model reading. The moment I finish, I will not call anybody 'cause I'd say time factor. Because I want time to get plenty of exercise." Alice's frustration was with time for co-curricular activities:

the timetable is chocked so you can't even add some activities like social clubs to your lessons when the headmaster hasn't approved and even if he does, we don't have time. One subject can have a whole lot of things for you to teach within that one hour.

Time is a limited resource. As the teachers expressed here, engaging in all the leaner-centered activities that are recommended by the curriculum requires enough time which appears not to be available to Penelope, Alice, and Carolina.

Another resource challenge expressed was in relation to teaching and learning materials. Initially, Penelope appeared to be in a dilemma, but her stance was clarified when she indicated the development of the core competencies can be achieved when resources are readily available. She explained:

For the creativity skills, it's not a problem but the resources. Aside the resources, we don't have the books; textbooks that we're using. So, it's me that I will go to internet to check and find something for them. Are you getting it? And after finding something for them, I have to write the thing on the board which is time-wasting. It delays. If the resources are there and the books, we can quickly do something and go away but we're not getting it like that. (Penelope)

While Penelope's concern was mainly about books, Gabriella also indicated learning should be ICT supported but operationally, this factor is missing in the classroom. She intimated:

…not easy in the sense that, the materials to assist us is not available. The new curriculum is based on digital research but in government schools especially not all the children have access to the phone or computer and the school doesn't have some. (Gabriella)

While the ICT tools were nonexistent in Gabriella's school, Phoebe's worry was related to the functionality of the computers in her school, and Alice further endorsed Phoebe's statement. She expressed bitterly:

…is not helping. In fact, most of the people don't have phones in their homes and in the school koraa the ICT, we don't have internet. Pause **(Researcher: there's no internet but you have the computers?***) Hmm pause, it's not working. The computers in the school are not functioning.*

They're like the 2nd or 3rd generation. Wo boot ah (booting) it takes a lot of time and only two is working. (Phoebe)

They're not able to feel the machines we use to teach. So, if we're supposed to watch a video, I just ask them in abstract form with the exception of Math and reading but for the others you need ICT tools which aren't available so sometimes, I use my phone. See this, (shows researchers a sketch pad) in Creative Arts you have to show them artwork of international artists by going around but it consumes a lot of time. Today they had to do a painting of Palm Sunday, so I had to show them some cartoons on my phone to have a clear understanding of what I wanted them to do. (Alice)

From these extracts we observe teachers share their frustration with the limited availability of resources in terms of time, teaching learning materials and ICT tools. While they try to implement changes in their classrooms they are constrained by resources and appear to be very frustrated by that.

Discussion

Besides teacher readiness for implementation and the government supplying the needed resources for the implementation of curriculum, Fullan argues the characteristics of change could define the success of curriculum implementation. From our study of teachers and their classrooms, we assessed our data against these characteristics of change, namely: need, clarity, complexity, and quality.

Need for Change

Except for Clara, who appears to be at sea, all our teacher participants appreciated the need for change. While admitting it was uncomfortable for them, they did not see the old curriculum as very relevant for the 21st century hence their attempt at implementing the SBC despite the teething challenges. As described earlier, teachers like Gregory, Carolina, Vanessa, and others show commitment in implementing pedagogies such as brain teasers, cooperative, inquiry-based, and experiential pedagogies that they were not used to doing. To these teachers, it was the way to go as they individually shared through interviews. Fullan argues that educational change requires a mindset change, arguing that "without such a shift of mind the insurmountable basic problem is the juxtaposition of a continuous change theme with a continuous conservative system" (Fullan, 2012, p. 14). Teachers' admission and appreciation for the need for change is an important first step which in our estimation, can be checked off the list.

Clarity about Goals and Needs

Another important indicator worth discussing is clarity about goals and needs. For curriculum change to happen, teachers need to be clear about the goals of the reforms and the part they ought to play to make it happen. In our interaction with teachers, it became obvious to us that they appreciated the goals of the curriculum reform. Pamela and Alice were convinced the fundamental principle underlying the new curriculum was the shift from the teacher-centered teaching to focusing on the learner as an active participant in every instructional activity rather than a passive contributor to learning. In our class observations, we can report that "groupings",

"questions", "presentations", role play", "pairing or paired dialogue" and "research" or project work" were common strategies used by teachers. The adapted approaches were to enhance the philosophy of the curriculum. Thus, ensuring harmonious development of the physical, mental, and spiritual capabilities of the learner toward the National Curriculum(Ministry of Education, 2018). It does appear to us that the teachers we interacted with were clear about the goals and needs of the curriculum.

Complexity: The Extent of Change Required to Those Responsible for Implementation

On the matter of complexity as a characteristic of change, we saw a huge gap. Previous quantitative studies on teachers implementation of the SBC (Agormedah et al., 2022; Ayebi-Arthur et al., 2020) have found them to exhibit high confidence and teaching efficacy. We did not observe these with the teachers in our study. As described in the teacher-related challenges, our teachers did not feel very confident in themselves and expressed doubts about what they did, even though we were marveled by some of their pedagogies. We realized from their expression during the interviews how they self-doubted their efficacy, which they blamed on inadequate time which was used to train them on the new curriculum.

The lack of efficacy of the teacher creates unlikeness to embrace changes in the profession (Hart, 2009). This assertion is validated by Phoebe's label of, "just about one week" of training on the new curriculum which further mandates personal efforts by the teacher on how to "study the syllabus and how to implement or go about it." This claim therefore implies the limited duration created no provision for maximum deliberations and significance of the learner-centered approach projected in the SBC. Scholarship is replete the evidence of the effect of the short training duration on teacher's attitudes and belief towards their practice (Chemagosi, 2020). In the case of Ghana, teachers' training on the new curriculum was marred by short duration and teacher protestations over poor treatment (Ghanaweb, 2019). Evelyn too indicated the time for training was short and requested further training to be brought up to speed. To her, the interruption occasioned by Covid 19 did not allow her to immediately practice what she had learnt at pre-implementation workshop and that explains why she was occasionally observed switching between pedagogical approaches (learner-centered to teacher-centered). It appears the net effect of the ineffective training is beginning to tell on implementation.

Besides, the limited availability of resources is also adding to the complexity of expectations as teachers continue to blame the state for the late supply of textbooks and other educational resources (Abiable, 2019; Sottie, 2021) The complexity of the nature of change is evident in the state expecting a total transformation in the teaching approaches of teachers whereas teachers also expecting the state to supply the needed resources and invest more in their training to make this happen. This conundrum is yet to be fixed.

Though there is no provision for precise training for teachers when new curricula are introduced, there is a proposition for training teachers to cope with content and teaching methods in dual ways. Educating teachers to handle teaching resources or materials in accordance with their inclinations, and training teachers in appropriate selection and adaptation in accordance with a set of rules (Chemagosi, 2020). The teacher as a key element in the change process should ensure continuous interaction with context and innovations. For effective implementation of the SBC with exigency on the core competencies, the teachers should be involved and participate efficiently in its processes. Furthermore, the final phase of Fullan's (2007) educational change theory also highlights changes in skills, thinking and committed actions. The changes that occur in these components for the teacher promote a balance between the curriculum philosophy and teaching approaches which are essential for the successful implementation of the SBC.

Quality and Practicality of the Program

Fullan (2007) further mentioned the successful achievement of change hinges on embedding or building change into the structure. Thus, the established procedures essential to ensure continuation in implementing the SBC requires skills and commitment that facilitates its successful implementation. On this score, time and its management are an important issue worth discussing. From the various lessons we observed, teachers always spent thirty minutes more than the expected times allotted on the timetable. Though instructional time can be difficult to measure, maintaining order, checking home assignments, and arranging lessons consume instructional time available to the teacher (Lopez-Agudo & Marcenaro-Gutierrez, 2022). Leah's remark about class management suggests the overworking atmosphere of the classroom life which drains a huge amount of their instructional time. Alice expressed frustration in relation to the time for co-curricular activities. To her, there was no room to add on other relevant activities to align with the development of the competencies.

Penelope observed during her English lessons that she does not have enough time left to engage the learners. She wished for time to have modeled reading first before inviting learners to read. However due to restricted time on every activity, this strategy could not be implemented. Cecilia also said, "before you realize I've used more than one hour". This reflects the compounding restriction of time in delivering contents in a particular lesson. From the perspectives of our teachers, implementing the curriculum to the highest quality standards is not happening because there appears to be limited time. Overcrowded classrooms and over-working teachers are a bad combination for quality of curriculum implementation. In effect, teachers are adopting a strategy suggested by Phoebe: "rushing through some concepts or leaving some activities undone" to take care of this challenge of inadequate time.

Teachers are already "tired" from the huge task leveled on them from the demands of the curriculum standards. Yet, knowledge of effective time management appears to be a deficiency in their professional competence (Hart, 2009). We are particularly troubled that since teachers do not know how to facilitate content and activities effectively within the specified time periods, the quality of the curriculum implementation is suffering. Cotton (1981) distinguished time into four categories; allocated time, engaged time, academic learning time and dead time. From our observations, we realized these times cannot be segregated as they are holistically used as instructional time. Adequate planning to use time effectively by teachers is therefore a great need.

Conclusion and Recommendations

From our study to assess teachers' adoption and enactment of 21st-century pedagogical approaches in the implementation of curriculum change in Ghana, we can conclude that the change process in Ghanaian schools is a quiet revolution (Fogarty & Pete, 2017). In adapting Roger's (1995) Innovation Diffusion model, we observed three category of teachers: innovators, early majority, and laggards. We observed teachers who show commitment to the philosophy of the new curriculum and are changing their teaching approaches to adopt 21st-century pedagogies. Teachers like Gregory and Vanessa are venturesome and are motivated by their idea of being change agents (Rogers, 1995). Teachers such as these are the torchbearers of the curriculum change. Their continuous presence is very crucial, and they need to be motivated to stay in the profession. They complained less and mostly focused on solutions instead of problems. Unfortunately, they are in the minority. Out of the 21 teachers, we can only comfortably speak of two as belonging to this category. Instead, we observed the majority of the teachers to belong to the early majority category. Such teachers like George, Gabriella, Laila, Penelope, Carolina did not like complexity and

attempted to avoid risk most of the time. They are comfortable with proven pedagogies and will only act when they see their colleagues moving in a particular direction. Expectedly, they are struggling with change. The extent of change required is more than they have been prepared to undertake. Clearly, there is the need for more training and a lot more professional development in the areas of pedagogical techniques and instructional time management. The state cannot renege on its responsibility of providing the needed resources and reducing class-sizes to appreciable levels. These interventions will be needed to sustain their enthusiasm for the work.

Even more challenging, there are teachers who appear to have limited knowledge and care less about innovations occasioned by the new curriculum. Like in Clasquin-Johnson's (2011) study, these teachers are reluctantly complying by mainly resisting, and/or adapting the curriculum. We classify them as laggards (Rogers, 1995). For teachers like Clara, their reference point is always in the past because they want to maintain the status quo. They are very suspicious of change and isolate themselves from innovators. The expectation is that the institution of professional learning communities (PLC) would have supported these teachers. Unfortunately, implementation of PLC in the schools have not yielded the right impact owing to a number of factors (Dampson, 2021). Fullan was right when he stated that: "structure does make a difference, but it is not the main point in achieving success" (Fullan, 2007, pp. 44–45). Instead, reculturing – a process of changing the way things are done (Fullan, 2007) appears to be the way to go. In the implementation of the SBC, the state has put in place structures for implementation (albeit deficient as it may). Teachers are implementing the curriculum in their own ways trying to meet expectations because "change is what teachers do and think" (Fullan & Stiegelbauer, 1991, p. 107). Perhaps a lot more attention needs to be placed on reculturing – a process that activates and deepens moral purpose of teaching (Fullan, 2007), focusing on what learners require and not what teachers desire. This will require strong leadership at the managerial levels of both the schools and the districts levels. From our interaction with these teachers, we conclude that the difference between the three groups of teachers lies in their personal motivation (Jenkins, 2020). The innovative teachers are self-motivated, whereas the laggards were demotivated. The early majority can be swayed both ways as circumstances in their schools and classroom change. It is important that a lot more research attention is devoted to investigating why people choose teaching and factors that motivate them to adopt change.

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