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Emergency remote assessment practices in higher education in sub-Saharan Africa during COVID-19

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Following the disruptions to in-person schooling during COVID-19 and the need for emergency remote teaching, this study explored the assessment experiences of teacher educators in Ghana. Through a qualitative transcendental phenomenological approach, purposive criterion sampling was used to select 25 teacher educators from 15 teacher training institutions in Ghana who participated in online teaching during COVID-19 school closure. The findings show that teacher-centered approaches to assessment dominate emergency remote assessment practices of teacher educators. Hodgepodge grading and general feedback were more prevalent during remote assessment. Teachers were also found to randomly select a few students to provide individualized feedback due to the large class size. Challenges including limited knowledge of the use of the online teaching platform for assessment, inadequate professional training and access to technological resources, and concerns about academic dishonesty were reported. However, teachers reported that their involvement in abrupt remote teaching and assessment has been a learning opportunity for them to develop new skills, which is imperative for their professional development.

KEYWORDS

emergency remote assessment, higher education, sub-Saharan Africa, COVID-19, Ghana

Introduction

The ongoing COVID-19 pandemic has changed the educational landscape due to the abrupt closure of basic, secondary, and tertiary institutions, sparked a global educational emergency, compelling most governments and policy makers in education to suspend traditional face-to-face teaching and learning to protect the health and lives of students, teachers, and educational administrators (Huang et al., 2020). This resulted in emergency teaching and learning where instructors needed and continued to develop alternative instructional delivery methods (Hodges et al., 2020).

Given that teaching and learning are inseparable from assessment, it was crucial for instructors and students to engage in online assessment to monitor student learning to improve educational quality. This includes how instructors gather information to make high-stake decisions on students - assessment of learning, and how they gather information to inform instruction - assessment for learning (Black and Wiliam, 2018).

The change in assessment landscape during the COVID-19 pandemic has resulted in several challenges including academic dishonesty, lack of integrity, fairness, and equity (Cooper et al., 2022). Most studies on emergency remote assessment have been conducted within the Global North to understand how teachers responded, navigated, and engaged in innovative assessment practices. However, little is known about how higher education instructors in low-income countries (including countries in Sub-Saharan Africa -SSA) coped, and responded to global emergency remote assessment. Taking into account this gap in the context of SSA, this study explored emergency remote assessment practices in higher education in Ghana during COVID-19. This study was guided by a research question: What are the remote assessment experiences of teacher educators in Ghana?

Literature review

Emergency remote assessment practices

COVID-19 has brought significant changes not only in teaching and learning, but also in the way the assessment of student learning is conducted. It led to the cancellation of summative evaluations and large-scale assessments, raising several concerns about fairness, equity, accessibility, and quality of education (Bond et al., 2021; Cooper et al., 2022). Teachers had to rethink emerging ways to assess student learning, while ensuring the validity and reliability of the processes and outcomes of assessment. Rahim (2020) provided some guidance on how assessment should be conducted in ERT. He suggested that there should be alignment between learning objectives and assessment content. Additionally, assessment tasks should address student learning needs, maintain a balance between assessment *for* and *of* learning, and develop ways to main students' interest in remote assessment practices. Instructors should also provide high-quality feedback, ask appropriate questions, consider the format and timing of tests, and communicate assessment results to students and other stakeholders in valid and reliable ways.

In a bid to explore assessment in ERT, Şenel and Şenel (2021) investigated remote assessment in higher education during COVID-19. The study involved 486 university students who reported that online assignments and tests were the prevalent tools for student assessment. Although their study showed that students were satisfied with the quality of the assessment, they were more satisfied when they mostly interacted with their teachers. This emphasizes the relevance of feedback, discussion, and formative assessment in emergency remote assessment.

Equally important studies on remote assessment are those conducted by Baboolal-Frank (2021) and Panadero et al. (2022). In particular, Baboolal-Frank concluded that assessment in ERT in South Africa took the form of multiple-choice online questions, forcing instructors to rethink the ways to present and structure questions to prevent academic dishonesty such as cheating. For Panadero et al. (2022), ERT had a negative impact on assessment. They concluded that group assignments were less prevalent in emergency remote assessment. Students were exposed to more multiple-choice examinations with fewer essays. Emergency remote assessment practices were carried out on several platforms such as Zoom or proctoring. These findings on the platforms used in emergency remote assessment confirm (Seraj et al., 2022). Their research revealed 14 platforms used in ERT and assessment during

COVID-19. Key among them are Microsoft Teams, WhatsApp, Discussion Forum, email, Learning Management Systems, Google Mate and Telegram. Panadero et al. (2022) further found that teachers lowered their assessment standards and criteria to amend their grading requirements, introducing flexibility in remote assessment practices. Students received more feedback, indicating an increased awareness of feedback, including the willingness to provide feedback and the use of new technologies to provide feedback. However, they found evidence to support that student involvement in self- and peer assessment was diminished, which had a negative impact on student involvement in teaching, learning, and assessment.

Hodges and Barbour (2021) identified some ways assessment can be done in ERT. These include online discussions, written assignments, fieldwork, quizzes, tests, presentations, and e-portfolios. They argued that these tools could be used in synchronous and asynchronous ways to assess students; however, they threaten academic integrity since students can be engaged in malpractices in assessment. Despite these concerns, they called for radical flexibility in the way remote assessment is designed, developed, and used during COVID-19.

Furthermore, Topuz et al. (2022), in their research on online assessment trends in ERT concluded that the assessment landscape during COVID-19 has witnessed many features and systems. They found that the question types focused more on multiple choices, essays, and true-false items. The key systems that made the assessment in ERT possible were a stable internet connection, a microphone, and webcams. The online assessment in ERT was found to support the technical, help document, and frequently asked question modules. These results suggest that assessment in ERT, although focused on tests and examinations, supported certain modules compared to the others.

Using effective questioning in remote assessment has also been confirmed by Dukhan (2021) in a study that focused on how to maintain quality assessment practices in ERT. It was found that in the context of academic dishonesty that remote assessment presents, instructors need to develop and use questions that require students to relate theory to practice. This suggests that questioning as a remote assessment tool should focus more on the application of knowledge compared to memorization and recall of learning content. Allehaiby and Al-Bahlani (2021) shared a similar view on the use of questioning, highlighting the use of open compared to close-ended questions when assessing student learning in remote assessment.

The need to involve students in remote assessment has been confirmed by Cernicova-Buca (2021) and Seraj et al. (2022). Cernicova-Buca, in his research, emphasized the use of computer-assisted assessment technologies that encourage student self- and peer assessment. Other common assessment tools such as open book exams and take-home tests that make students responsible for their learning were found to take the centre stage in remote assessment. In Seraj et al. (2022) research, they identified five common assessment practices during COVID-19. Of the five, time-limited and online delivery remote examinations were prevalent. On the other hand, assessment practices such as video assessment, interim presentations, and automated student-centered assessment were less prevalent.

Similar to the above researchers, Cernicova-Buca and Dragomir (2021) reported that the nature of assessment in ERT has been online end-of-term and mid-term examinations. This finding agrees with a systematic review conducted by Asamoah et al. (2022) that focused on formative assessment techniques used by instructors in higher

education during COVID-19. According to Asamoah and colleagues, instructors have used paper and pencil tests compared to assessment conversations and dialogs during COVID-19. However, [Rodrigues et al. \(2022\)](#) research on assessment patterns in ERT in Portugal provides a contrary finding. They concluded that the oral discussion through Microsoft Teams and Zoom was the most prevalent assessment technique compared to tests in elementary and higher education. Their results highlighted two groups of teachers. Those who preferred to use oral discussion and dialogic simulations and had no preferences for testing and educational games. The second group of teachers preferred oral discussion but not educational games, work and peer reviews, or dialogic simulations.

So far, the literature on the nature of remote assessment during COVID-19 has emphasized formative and summative assessment practices conducted in several synchronous and asynchronous platforms. It is observed that summative assessment in the form of online multiple-choice tests and fewer essays has been prioritized. Conversely, there has been limited use of formative assessment in the form of feedback, questioning, discussion, peer and self-assessment, and student collaboration in ERT. Assessment in ERT has also witnessed several adjustments and flexibility in grading requirements, which in most cases, were lowered to compensate for the challenges students faced in remote assessment. This has raised several issues regarding the irregularities, quality, reliability, and the validity of remote assessment during COVID-19. It is not surprising that there has been a greater emphasis on tests and examinations, and in particular multiple-choice tests in remote assessment. These tests mainly require students to respond in a closed-ended manner, are computer-friendly, and can be easily and quickly administered ([Brown and Abeywickrama, 2010](#); [Boitshwarelo et al., 2017](#)).

Challenges of remote assessment

Transferring teaching, learning, and assessment approaches from traditional face- to face to online ERT and assessment has been a notable challenge during COVID-19. The literature highlights several factors that have contributed to this challenge. [Cahyadi et al. \(2021\)](#) argued that the lack of an affordable, fast, and reliable internet connection affects ERT, hindering educational inclusion and quality. Other challenges identified in their research are the lack of readiness of institutions, instructors, and students for ERT and remote assessment.

A particularly interesting study is that of [Panadero et al. \(2022\)](#), which emphasized that the interactions of students in ERT and assessment have been difficult during COVID-19. There has been too much flexibility in assessment by lowering assessment criteria to compensate students, and most instructors were unable to develop and use rubrics for formative purposes, which affects the validity and reliability of assessment processes and results. Most instructors believed that there were difficulties in setting up online classes and getting students participate in online classes due to technical and internet connectivity problems. Others also lacked the technical knowledge to develop and implement emergency remote assessments due to inadequate training.

The research led by [Topuz et al. \(2022\)](#) highlighted that online assessment systems were not mobile-friendly. This hindered students from successfully navigating and using online platforms for learning and assessment. They argued that most students were unable to afford computers and internet costs, which affected their participation in teaching and learning. They also mentioned the security challenges

that come with emergency remote assessment. There were difficulties monitoring students during emergency remote assessment due to the lack of security systems that could detect and prevent students from cheating and other examination malpractices.

Additionally, about 15 different types of challenges were mentioned in the research by [Seraj et al. \(2022\)](#) that focused on the trends of teaching and assessment during COVID-19. The key among these challenges is the lack of preparedness and training of teachers and students for ERT and emergency assessments. Previous studies such as those by [Peixoto et al. \(2022\)](#) have emphasized how students and instructors were not prepared for ERT and remote assessment during COVID-19. Assessment was compressed and did not adequately cover all learning content due to the educational loss brought about by COVID-19. Sera and colleagues also mentioned the lack of students' interest in remote assessment, cheating, emotional challenges, and dissatisfactory examination systems. Other challenges such as distractions from the family during remote assessment, question leakages, and text anxiety were reported. These challenges added to the lack of exposure of instructors and students to remotely use information and communication technology was earlier confirmed by [Jili et al. \(2021\)](#).

The literature also suggests that COVID-19 and its associated ERT have affected student academic achievement. [Hammerstein et al. \(2021\)](#) in their research on the effect of school closures on students' academic achievement found that students' achievement was negatively affected. According to them, younger students, and those from low socio-economic backgrounds were the most affected. The possible reasons for these results are that younger students are less likely to engage in self-regulated learning. Those from low socio-economic backgrounds may lack the necessary family support, infrastructure, active learning support, time, and psychological support to participate in ERT and remote assessment activities ([Tomasik et al., 2020](#); [Meeter, 2021](#); [UNESCO, 2021](#); [Panadero et al., 2022](#)).

[Andersen et al. \(2022\)](#) research on the impact of COVID-19 on student performance provides important information on how emergency remote assessment practices affected the performance of medical students. Their study involved 175 students, who revealed that their performance was lowered during COVID-19 compared to their performance after COVID-19. What accounted for low performance were mental problems, the lack of discussion and group works for students, and the format of the examination questions that were used. Students had limited time to engage in teaching and learning and respond to assessment demands. [Garcia and Weiss \(2020\)](#) argued that student learning and development are impeded when there is reduced learning time, something that is associated with teaching and learning during COVID-19. In addition, the findings from [Andersen et al. \(2022\)](#) revealed that the examination mainly involved multiple choice questions, limiting students to compose their answers and express their views on learning concepts.

Methods

Design and approach

The study explored the remote assessment experiences of teacher educators in Ghanaian colleges of education during the COVID-19 pandemic. We used a qualitative transcendental phenomenological

approach to understand the experiences of teacher educators in Ghana during the move to online teaching and learning from March 2020 to December 2020. Transcendental phenomenological research aims to explore the essence of a phenomenon by examining it from the perspective of those who are directly affected by [Teherani et al. \(2015\)](#). Since this study sought to understand the diverse experiences of teacher educators on emergency remote assessment, employing a transcendental phenomenological approach was considered appropriate to obtain in-depth first-hand information from the participants.

Participants and sampling

We used the purposive criterion sampling technique to select teacher educators who taught Bachelor of Education courses. The purposive criterion sampling technique allowed us to identify and select participants who were knowledgeable about or experienced with the phenomenon of interest ([Creswell and Clark, 2011](#)), in this case, emergency remote assessment. In addition to knowledge and experience, the availability and willingness of participants and their ability to communicate their experiences and opinions in an articulate, expressive, and reflective manner necessitated the use of the purposive criterion sampling technique. Participants ($n=25$) who were teacher educators from different demographics were selected from 15 teacher education institutions. Based on participant availability, we arranged in-depth, unstructured, and open-ended individual interviews over Zoom to allow participants to share their experiences with emergency remote assessments. During the individual interviews, we posed questions that encouraged the participants to deeply reflect on their assessment practices. Some of the questions we asked the participants included but are not limited to (1) *What are your overall experiences with emergency remote assessment?* (2) *How did online teaching shape your assessment practices?* The average duration of the individual interviews was 62 min. [Table 1](#) provides a statistical overview of the participants and some key demographic information.

Ethical issues

This study received ethical clearance from the teacher training institutions selected for the study. In addition, we sought the consent of the teachers educators before interviewing them and were informed of their rights to withdraw from the study at any time. We also ensured that the confidentiality and privacy of participants' data were maintained. Consent was audio recorded and no third-party had access to the participants' voices on tape. The data collected were used solely in this research. To ensure anonymity, the original names have been represented using pseudonyms. Interview data were also protected by saving them with strong passwords.

Data analysis

The interview transcripts were uploaded into MAXQDA analytics pro-2022, a qualitative analysis software. Employing a general coding plan based on our key areas of focus (e.g., remote assessment experiences, challenges, support, and resources), three of the research team independently analyzed the same 8 interview transcripts which is equivalent of 32% of the full data set. Each of the initial analysts used a structured procedure of reading and re-reading the transcripts to examine and categorize the data. This process was carried out to improve the reliability and validity of the coding. The three members

of research team met and inspected, evaluated, compared their coding outcomes, and computed the inter-coder reliability of the coding plan, as suggested by Cohen's kappa. The inter-coder reliability based on Cohen's kappa was found to be 0.82, which shows strong agreement among the three raters or coders ([Landis and Koch, 1977](#)). Two of the research team members also used the coding scheme developed to analyze the full data set.

The analysis of phenomenological data followed a rigorous and inductive systematic procedure as suggested by [Moustakas \(1990\)](#). We used [Moustakas \(1990\)](#) four systematic inductive procedures to analyse the data. Our analysis procedure included (a) horizontalisation, (b) clusters of meaning, (c) structural description, and (d) essential, invariant structure (or essence). We carefully and severally read the transcripts to familiarize and immerse ourselves in the data. Key concepts in the transcript of each participant were highlighted. We used horizontalisation to highlight significant statements and/or quotes that offered a nuanced understanding of the remote assessment experiences. The highlighted statements were given equal values and were coded with a descriptive label. We created clusters of meaning from significant statements into themes. Significant themes were used to describe remote assessment experiences (textural description). They were also used to describe the context that shaped the remote assessment experiences of teacher educators. Finally, structural and textural descriptions of the experiences of the teacher educators were used to create a composite description that offers the 'essence' of their experiences ([Moustakas, 1990](#)).

Findings

Based on the outcome of the interviews with teacher educators, three overarching themes emerged: (a) remote assessment practices (i.e., assessment strategies, grading practices, feedback practices, and differentiated assessment practices), (b) remote assessment challenges (i.e., affordability and user-friendliness of online teaching platforms, limited knowledge, and use of the online teaching platform to assess, inadequate professional training, and access to technological resources), and (c) lessons learned and future directions.

Remote assessment practices of teacher educators

The dominance of the teacher-centred assessment approach

Questioning was the predominant formative assessment strategy that teachers in this study used during the remote assessment. Most teachers ($n=18$) indicated that asking students questions while teaching was the main and only formative assessment strategy employed. Few teachers ($n=4$) used group presentations; others ($n=3$) were not sure of the assessment strategy used. For example, a participant indicated:

"I normally ask them questions so I will know if they have understood what I am teaching. Based on their response to my questions, I can determine if they have understood or not. Even though most students do not respond, I take a clue from the few who will respond" (P. 21).

TABLE 1 Demographics of participants.

Participants (P) ID	Gender	Teaching experience (years)	Age range (years)	Course	Interview duration (minutes)
1	Female	25	50–60	Psychology-related	67
2	Male	2	30–40	Assessment	56
3	Male	22	40–50	Mathematics	61
4	Male	8	40–50	Special education	70
5	Female	3	30–35	Home economics	65
6	Female	2	30–40	Mathematics	67
7	Male	30	50–60	English	55
8	Male	14	50–60	Educational course	58
9	Male	23	40–50	Science	64
10	Male	25	50–60	Mathematics	53
11	Female	20	40–50	English	56
12	Male	14	40–50	English	59
13	Male	8	30–40	Mathematics	66
14	Female	24	50–60	Home economics	71
15	Male	5	30–40	Science	69
16	Female	9	30–40	Science	67
17	Female	31	50–60	Psychology-related	62
18	Male	28	50–60	Guidance and counseling	60
19	Female	26	40–50	Statistics and research	54
20	Male	23	40–50	English	57
21	Male	10	30–40	Physical education	65
22	Female	14	30–40	Music and dance	56
23	Female	18	40–50	Assessment	71
24	Male	4	30–40	Visual arts	60
25	Female	3	30–40	Visual arts	61

The teacher's comments imply that, although most of the students are not actively engaged in the assessment process, he is able to get a sense of where the students are in their learning through the few students who respond to his questions. We also found that teacher-centred approaches to assessment dominated their online assessment practices. Teachers became the centre of the assessment process with little student participation. This is reflected in their responses:

“... if you are teaching online, it is like a lecture method where you go straight to the point, tell them what you have to tell them, wait for answers, you respond. That was how it was, that interactive nature wasn't there. You cannot do that with Telegram (P. 16).”

Increase in hodgepodge grading

This study found that teachers used grading as motivation to encourage students to attend online classes and participate in instructional activities. Sixteen out of the 25 participants indicated that they were awarded marks for classroom participation, attendance, and punctuality of students. These are non-achievement factors (i.e.,

hodgepodge grading) that teachers consider when grading students. One of the participants shared that:

“...I also provided marks for classroom participation and punctuality of the students. Sometimes, I awarded marks to students who come to the online classroom on time and stay throughout the session. The marks were included in their overall performance” (P. 10).

Statements from this participant show that marks were not only given to students as a way of motivating them to attend and participate in online classes but also used as part of their final achievement grade.

Feedback practices

Most of the teachers ($n=17$) indicated that they provided general oral and random feedback to students. This was because they felt that they could not address all student concerns, so they observed recurrent student concerns and addressed them orally during teaching and learning. Reflecting on his experience, a teacher educator stated:

“I review their work and find out their problems and then provide them with generalised feedback. So, the feedback was tailored to the area most of the students were lagging” (P.10).

Other teachers randomly selected a few students and provided them with feedback. The teachers indicated that they were unable to provide feedback to all students mainly due to the large class size. This happened because the abrupt move to online teaching compelled them to combine most classes. For example, a participant voiced:

“...When I asked them to send their responses to the task by email, I realised that the number was overwhelming, so I selected some and provided feedback using word track changes. I could not provide feedback to all of them because we are talking about almost 300 students” (P.23).

Differentiated assessment

Most of the teachers in this study ($n=13$) developed innovative ways to support students with special assessment needs. Teacher educators indicated that due to limited instructional time, they created a special online space after class to attend to students with special assessment needs.

“Students who needed special attention I attended to most of them after class. You know I had limited time with online teaching because of the platform I was using. It takes like 5 min for most students to download and listen to my 5-7 min recorded audio. So, for a class that should take an hour, I normally use 2-3 h. So, I am not able to attend to those with peculiar needs. Therefore, I created a separate telegram account for them to post their questions after our normal class” (P. 18).

However, other teachers indicated that they were unable to support students with special assessment needs due to the platform they used. One of them shared:

“For Telegram, it is the whole class teaching, there is nothing like individual attention or whatever. Yes, I was having two students who needed special attention but, in that case, there was nothing one could do at that moment...” (P. 9).

Remote assessment challenges of teacher educators

Affordability and user-friendliness of online teaching platforms

Despite the development of a learning management platform by teacher training institutions to be used for online teaching and assessment, most teachers ($n=21$) preferred to use telegrams. They explained that the other learning management platforms were not user-friendly and had technical challenges, hence the preference for Telegram. One of the participants reported:

“The affiliated university introduced an online management platform called the learning management platform which was supposed to be used for teaching and learning. However, there

were some technical challenges and limitations in terms of usage. So, we the teachers decided to use the Telegram platform” (P. 9).

Other teachers found telegram more useful because it is affordable for both teachers and students to have full access compared to other platforms like Zoom, which was considered expensive for most teachers and students. To validate this finding, one of them said:

“I enjoyed using telegram because the students could later visit the platform to download any resources, I shared with them even if they were not in class... Also, the telegram accommodated most of the students, especially in large class sizes. Since I had about 300 to 400 students, the telegram was more appropriate. Other platforms such as zoom were not appropriate because most of the students and teachers had limited access. So, in the end, my school agreed that telegram should be used for teaching and learning” (P. 5).

Limited knowledge and use of the online teaching platform to assess

We found that most of the teachers ($n=15$) had limited knowledge of how to navigate and use the online teaching platform for assessment. They shared that they could not use most of the assessment strategies they used during their in-person teaching. For example, a teacher shared:

“The telegram did not allow me to engage in some of the theories that underpin learning. For instance, the constructivism theory or model believes that knowledge exists within the context of learners and therefore students should be guided to construct their own knowledge. We were expected to give them...uhm for instance, *talk for learning* which if it was face-to-face, you give them a task they prepare and come present. If they finish their colleagues will ask questions. Then the teacher will come in to give final comments. Something like this was not possible with the telegram... I could not do it...” (P. 1).

It can be inferred that although the teachers were interested in using student-centered assessment approaches, they could not use such an assessment approach, since the online teaching platform was not suitable for the assessment task they intended to use. Another participant corroborated:

“The platform did not support most of the strategies that I am used to. For example, I normally use a strategy like think, pair, and share and I could not use the platform to do it. So, I was thinking how I am going to do it, but I could not So I did not” (P. 8).

Inadequate professional training and access to technological resources

Unstable internet connectivity and high internet costs were the main challenges most teachers faced during online teaching and assessment. Unstable internet connectivity significantly disrupted teachers' assessment practices largely because students could not actively participate in the assessment process. One of the participants commented as follows:

“I realised that when I ask questions it takes them a long time to respond because I must record the question and send it to them. When they receive it, they also must download and listen before they can record their response and send it back to me. I must also download them and listen. This made it difficult for me to ask more questions because it disrupts the class. Sometimes, they will have poor internet connections and it will even take forever to respond to your questions. When I have moved on a long time, that’s when you will see others sending in their response” (P. 13).

In addition, most of the teachers ($n=19$) in our study reported that they had no prior teaching or remote assessment experience. The professional training they had on remote teaching and assessment was not sufficient to prepare them for effective online teaching and assessment. This is reflected in the following:

“Our ICT personnel went for training on how to use an online platform for assessment and they came to teach us. Some of us who were not technologically inclined still struggled to use the platform for our assessment strategies, so we sometimes had to even go to the homes of ICT personnel to help us. The training we received on how to navigate the platform was done...uhm ...I think within two hours every day for two days. I think it was rushed, so it made it difficult for us to learn and be able to use it” (P. 20).

Concerns about academic integrity

Another prevalent challenge expressed by teachers was academic dishonesty on the part of students. Most teachers were hesitant to conduct a summative assessment during remote teaching because they were concerned that academic dishonesty may increase. Teachers felt that students could cheat on any summative assessment they conducted. Therefore, to protect students from academic dishonesty and to not give an unfair advantage to some students, most teachers postponed summative assessments until classes returned to in-person. One of the participants said:

“I wasn’t comfortable using the online platform for any summative assessment because I wasn’t sure if it was my student who was doing the exams, or if someone was helping them. I did not want other students to get an unfair advantage over others. So, this was my major challenge” (P. 17).

Other teachers were also concerned because they could not decipher if students did the exams, or if someone did for them.

“The people on the other side that I am not aware of were my major concern. I know many teachers also had similar concerns.....We cannot tell if they did the work themselves or someone supported them” (P. 22).

Lessons learned and future directions

Learning opportunities to develop new skills

Despite the myriad of challenges teacher educators faced due to the abrupt move to remote teaching, they reported that the experience

was a learning opportunity for them. Most of them voiced that the challenges they faced were largely due to their lack of experience with remote teaching. However, they developed certain online teaching skills that can be used in their current and future teaching practices.

“...now I can say that I have developed a certain skill set in the use of the online platform to assess my students. This is something I have never done before in my teaching career. The recent online teaching has given me the opportunity to learn how to do it. I am not perfect, but I am better than before [Laughs]” (P. 11).

Additionally, teachers reported that remote teaching has significant benefits, such as the flexibility to teach regardless of the location of the teacher. Therefore, most of them called for hybrid teaching. This is evidenced in the following comment from one of the participants:

“...of course, online wasn’t that bad, to me we could adopt what they call blended teaching and learning. Because it had some advantages as well which is not possible with in-person. Especially if you look at college activities sometimes you must go to workshops. So, for instance, if you are in Winneba [a City in Ghana] you can still engage your students who are on campus...” (P. 12).

Discussion

This study explored emergency remote assessment practices in higher education in Ghana during COVID-19. The study found that the teacher-centred assessment approach dominated teacher educators’ assessment practices during online teaching. Students were not actively involved in the assessment process. This finding aligns with findings from previous studies that found that emergency remote learning promoted teacher-focused assessment practices and decreased student involvement in self-and peer assessment (Asamoah et al., 2022; Panadero et al., 2022).

In contrast, other studies found that through computer-assisted assessment technologies, students were able to actively participate in the assessment process during emergency remote learning (Cernicova-Buca, 2021; Seraj et al., 2022). Given that teachers in this study had limited technologically assisted assessment resources, it is not surprising that they were unable to engage students in a way that fosters students’ metacognitive abilities and allows them to monitor their own learning. Notwithstanding, prior research on classroom assessment practices within Ghana’s educational context before COVID-19 showed that few teachers actively engaged students in the assessment process (Eshun et al., 2014; World Bank, 2016; Baidoo-Anu and Ennu Baidoo, 2022). Therefore, emergency remote learning augmented the already existing teacher-centred assessment practices in the Ghanaian educational system.

This study also found that the students did not only experience limited participation in the assessment process but also experienced reduced feedback from teachers. Teachers indicated that the abrupt move to online learning compelled them to combine classes, increasing class size. Hence, they were unable to provide timely individual student feedback, rather generalized and random feedback

was provided to students. This finding contrasts with previous studies that found that teacher feedback to students increased during emergency remote learning (Panadero et al., 2022). The large class size and limited instructional time also made it difficult for most teachers to support students with special assessment needs during an instructional session. To differentiate assessment tasks for formally identified students, teachers developed innovative ways by creating a special online space after class to attend to students with special assessment needs.

Furthermore, our findings show that teachers used grades as motivation to encourage students to attend online classes and participate in instructional activities. Thus, teachers in this study placed significant weight on non-achievement factors by assigning grades to students' class attendance, punctuality, efforts, and participation in class. Measurement theorists have consistently recommended grading to represent only student achievement (Brookhart, 2004; Randall and Engelhard, 2010; Chen and Bonner, 2017); however, extant literature shows that most teachers tend to include non-academic achievement factors in their grading practices (Cheng and Sun, 2015; Nowruzi, 2021). This is commonly known as 'hodgepodge grading' in educational measurement literature (Brookhart, 1991; Cross and Frary, 1999). Clearly, emergency remote learning has increased the inclusion of non-academic achievement factors in the grading practices of teachers.

Teachers reported several challenges during emergency remote assessment. These include limited knowledge of how to use available online teaching platforms to assess, inadequate professional training and access to technological resources, and concerns about academic integrity. These challenges have been anchored in other studies. For example, Seraj et al. (2022) and Peixoto et al. (2022) found that most instructors were unprepared for emergency remote teaching and remote assessment during COVID-19. Myriad studies have also reported increasing academic integrity concerns during emergency online learning (Erguvan, 2021; Hill et al., 2021; Janke et al., 2021). For example, Janke et al. (2021) examined whether higher education students engaged more in academically dishonest behavior in emergency remote learning than in on-site learning. The results showed that academically dishonest activities increased among students during online learning than on-site. Teachers in our study felt that students could cheat on any summative assessment. Therefore, to protect students from academic dishonesty and to not give an unfair advantage to some students, most teachers postponed summative assessments until classes returned to in-person. This suggests that teacher educators view in-person assessment as way of improving academic integrity and preventing malpractices compared with remote assessment.

Other prevalent challenge teachers faced was poor and unstable internet connectivity. The digital divide, digital inequities, and digital accessibility are not new challenges within higher education in SSA (Cariolle, 2021; UNESCO, 2021). Across SSA, only 11 percent of the countries relied solely on online learning platforms, and only 23 percent used a combination of television and radio broadcasts (Azzi-Huck and Shmis, 2020). Most universities struggle to connect online to ensure the continuity of learning. For instance, Africa's higher education institutions often receive bandwidth in the range of 100–1,000 Mbps (megabits per second) per 1,000 students, while U.S. and European schools have a recommended target of 3 Gbps (Gigabits per second) per 1,000 students (World Bank, 2020). Even with the steep drop in broadband prices, affordability remains a huge

obstacle for many students in SSA. Digital inequities existed and impacted students before COVID-19 in SSA but, the closure of physical spaces within the education sector exacerbated digital disparities in accessing education across the region. The stark digital divide is a classical manifestation of inequity in education.

Conclusions and implications for policy and practice

This study explored the remote assessment experiences of teacher educators in Ghana during COVID-19. It is the first in Ghana and part of the few in sub-Saharan Africa to highlight key experiences of teacher educators during emergency remote assessment amid COVID-19. This study provides an initial and significant understanding of how Ghanaian teacher educators responded, navigated, and coped with remote teaching and assessment. Therefore, our findings are critical to improving and supporting teachers' professional development, helping them to effectively support and report online student learning. The challenges of emergency remote assessment within teacher education colleges in Ghana have been unpreparedness, inadequate online teaching and assessment training, and inadequate technological resources to support remote teaching and assessment. Engaging in emergency remote assessment during COVID-19 was important to measure student learning due to its convenience and adaptability (Kundu and Bej, 2021; St-Onge et al., 2022). However, student learning is affected when there are difficulties and a lack of preparedness in adopting new technology to support students during remote learning (García-Peñalvo et al., 2021; Kundu and Bej, 2021; Saïdi et al., 2021).

It should be acknowledged that remote assessment can only be effective when students and instructors have consistent access to infrastructure and learning devices, and if they have received the needed training on ERT and remote assessment. COVID-19 made it practically impossible for educational institutions to plan carefully and implement the strategies for successful emergency remote teaching and assessment. This has contributed to the identified challenges in educational delivery during COVID-19, especially in Ghana. We recommend that teacher colleges in Ghana should consider training educators in technology and online teaching and learning methods to prepare them for the possibility of remote teaching and assessment.

Limitations and future directions

This study used a relatively small sample size. In addition, the participants of this study involved some selected teacher educators in the colleges of education in Ghana. These limitations affect the transferability of the findings. It would be appropriate to obtain data from a relatively larger number of teacher educators to analyse their experiences of emergency remote assessment. However, unlike surveys that may not provide an in-depth understanding of the remote assessment experiences, this phenomenographic study draws on the lived experiences of teachers about their remote assessment practices during COVID-19. It provides significant and in-depth insight into the experience of teacher educators in emergency remote assessment in Ghana, serving as reference material to improve assessment, teaching, and learning in emergencies. Given the scope and limitations

of this study, follow-up studies may be conducted using mixed-method approaches.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical approval was not required for the study involving human participants in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

DB-A conceived the idea. All authors contributed to the data collection, results, discussion, and conclusions.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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