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Primary Mathematics Teachers' Assessment Practices in the Context of the Integrated Primary Curriculum in Lesotho

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The purpose of this research was to investigate primary mathematics teachers' assessment practices in the context of the new integrated primary curriculum. This was a case study in which data were collected through classroom observations and interviews. Findings from the study revealed that teachers were able to use some of the assessment for learning strategies in their classrooms. These were communicating learning intentions and success criteria at the beginning of the lessons, making use of peer and self-assessment by learners. The study established that the use of success criteria can promote learners' self-reflective ability, regardless of their age. Findings also revealed that teachers were not providing learners with descriptive feedback that showed their strengths and weaknesses. Furthermore, the results of the study revealed that teachers encountered challenges in the implementation of assessment for learning in their classrooms. Some of the challenges encountered were a shortage of resources, high teacher–learner ratio, increased workload and reduced teaching time.

Keywords: Assessment for learning; learning intention; mathematical understanding; self-assessment; success criteria

Introduction

Assessment is an integral part of the teaching and learning process, as it provides feedback to learners, teachers and the entire education system. The feedback that learners receive gives them an opportunity to restructure their thinking and deepen and refine their understanding. Leighton et al. (2013) emphasise that the feedback messages can be used to modify learners' thinking and learning.

Feedback helps teachers adjust their teaching practices in order to align them with their learners' needs. For Nicol and Macfarlane-Dick (2006), good feedback provides teachers with information that can be used to shape teaching. It is therefore not surprising that Lesotho has embarked on policy reform in the assessment arena. The Lesotho Curriculum and Assessment Policy which was introduced in 2009 is meant to transform teaching and learning, as well as assessment procedures, so that they are in line with emerging needs of individuals and those of the Basotho nation at large (Ministry of Education and Training (MoET) Lesotho, 2009). It stipulates that assessment should be broadened to include both formative and assessment learning modes, moving away from the traditional ways of testing. The policy illustrates that assessment for learning indicates what the learner has learnt and can do and indicates areas where remedial work is needed. This mode of assessment has resulted in several strategies that guide the teacher in the implementation of assessment for learning. William (2011) maintains that these strategies include the sharing of learning outcomes and success criteria at the beginning of the lesson; provision of timely and descriptive feedback that helps learners to progress; and engagement of learners in peer and self-assessments.

Learning intentions explain the skills, knowledge, attitudes and values that the teacher wants students to learn (Hattie, 2009). Success criteria entail a '[j]ist, written for the learners or by the learners, of the process that they have to go through to succeed in learning the objective' (Lee, 2006, p. 46). Additionally, success criteria should be shared and discussed with the learners so that they fully understand them. Thus, success criteria outline the process through which learners will successfully attain the learning intentions. Clarke (2008) asserts that learning intentions and success criteria are the tools that enable learners to exercise power over their learning. Once learners know and understand the standards they are aiming for and the guidelines that assist them in attaining these said standards, they are in a better position to judge their work against them. Self-assessment is an important strategy of assessment for learning because it actively engages learners in their own assessment.

The Integrated Primary Curriculum, which enacted the Curriculum and Assessment Policy in Lesotho, also stipulates the use of assessment for learning strategies as it illustrates that teachers have to share learning outcomes and success criteria with learners at the beginning of the lesson (MoET, 2013). The curriculum indicates that teachers should provide feedback orally or in writing to help learners improve. Furthermore, the curriculum specifies that learners must learn self-assessment and peer-assessment techniques in order to discover areas for improvement. Hence, the enactment of the policy has brought a major shift in the way learners are assessed. In their analysis of the policy, Raselimo and Mahao (2015) posit that there may be a partial implementation of the policy at classroom level because its conventions differ from pedagogy and assessment practices that are adopted at schools. For Heitink et al. (2016), if the assessment for learning practices is to be effective, it should be integrated into classroom instruction and should not be seen as an 'add-on activity'. The policy has placed enormous pressure on teachers as they must now abandon their long-held assessment practices and adapt to the newly suggested ones. Additionally, Heitink et al. (2016) report that, for successful implementation of assessment for learning, teachers need support and training regarding the use of its strategies. However, if correctly implemented, assessment for learning may result in many benefits in the mathematics classroom.

Assessment for Learning in Teaching and Learning of Mathematics

Assessment for learning has varied benefits for both teachers and learners. Teachers are able to determine what standards learners already have achieved and to what extent, so as to decide what changes they can make in instruction for all learners to succeed (Ainsworth & Viegut, 2006). This could be achieved using the evidence gathered. Assessment for learning can be used to increase learners' participation in a lesson (Barnes, 1999) and to motivate and assist them to improve (Nieuwoudt & Reyneke, 2016). The feedback learners receive from either teachers or peers can be used to improve the quality of their own work and help them see their strengths and weaknesses. It improves students' performance and gives them guidance on how to do better the next time. Assessment for learning enables learners to gain a sense of their progress and the kind of support they need to understand theoretical concepts (Joyce et al., 2015). This kind of understanding is 'relational' because learners know what to do and the reasons why they are doing it (Skemp, 1976).

Sharing learning intentions and the success criteria with learners has a positive impact on mathematics learning and understanding. Michael-Crysanthou et al. (2014) assert that learners' knowledge of learning intentions and criteria for success allows them to have a clear idea about the mathematical content they are learning and the mathematical processes they engage in, the strategies they need to develop and the way they are expected to be involved in the teaching and learning process. According to Clarke (2005), in Small (2019), success criteria may be focused on detail (process) or solutions (product). Process success criteria are more desirable as they guide learners by providing them with mathematical procedures.

Feedback is another strategy that is regarded as important in promoting learning. Feedback provides the learners with information that helps them close the gap between what they know and what they need to know. Learners' performance and confidence in developing mathematical models improves if they receive feedback that helps them to revise their work (Jung et al., 2015).

Another strategy for assessment for learning that seems to be effective in promoting learners' understanding of mathematics is self-assessment. When learners are encouraged to assess their own learning, they become more aware of what they know, how they learn and what resources they are using when they do mathematics (Lee, 2006). However, it should be noted that the success of peer and self-assessments depends largely on the provision of clear learning intentions and success criteria. Newby and Winterbottom (2011) have found that providing success criteria was important in helping learners to assess themselves and their peers. However, there are a number of challenges associated with the implementation of assessment for learning.

Challenges of Implementing Assessment for Learning

There are numerous factors that affect the proper implementation of assessment for learning in the classroom. One of the key factors that may affect the successful implementation of a policy in schools is 'clarity' (Fullan, 2001). Clarity is the clear understanding of goals, whether change is necessary and what needs to be changed (Fullan, 2001). Fullan further warns that, if the policy is not clear, those who are implementing it may sometimes demonstrate what is referred to as 'false clarity', which '[o]ccurs when innovation is interpreted in an oversimplified way—where the proposed change has more to it than people perceive or realize' (Fullan, 2001, p. 89). Wylie and Lyon (2012) indicate that, to implement an assessment policy successfully, teachers should be provided with training that will help them develop an understanding of how to collect, analyse and interpret evidence of learners' learning and how to provide feedback that supports teaching and learning. Thus, training may increase teachers' self-efficacy and confidence in implementing the policy. However, Nyambe (2015) reports that lack of training is one of the major challenges that teachers face in implementing assessment for learning. Furthermore, practical constraints such as class size, time and resources also pose a big challenge to teachers as they implement assessment for learning (DeLuca et al., 2012; Nyambe, 2015). Kapambwe (2010) concurs by suggesting that the number of learners in a class influences the way teachers assess their learners. Large class sizes are a threat to the quality of assessments provided by the teacher, since teachers are likely to provide ineffective feedback to learners owing to a lack of time (Raman & Yamat, 2014). Furthermore, DeLuca et al. (2012) illustrate that limited time influences teachers to continue using traditional forms of assessment as they believe that these forms are more time-efficient. These constraints could be a serious setback for proper implementation of assessment for learning at primary schools in Lesotho.

Notwithstanding the challenges highlighted above, assessment for learning can still be implemented successfully in mathematics classrooms if an effort is made to mitigate the challenges. The main purpose of this study is to establish mathematics teachers' assessment practices in the context of the Integrated Primary Curriculum in Lesotho. In particular, the study will attempt to address the following questions:

- Which assessment for learning strategies are frequently used by primary school teachers in the teaching of mathematics?
- What are the challenges teachers experience during the implementation of assessment for learning?

As the study regards the implementation of the new mode of assessment, we have adopted the Concerns-based Adoption Model (CBAM) as a the framework through which to study teacher change in a context of educational innovation.

Concerns-based Adoption Model

The theoretical framework for this study was based on the CBAM, which was originally developed by Hall and Hord in 1973. The model describes and explains how individuals develop or change as they implement a new policy (Horsley & Loucks-Horsley, 1998). This model was appropriate for this study because it sought to establish teachers' assessment practices in light of assessment

for learning techniques as reflected in the new assessment policy. Furthermore, this model was quite relevant as the study also attempted to look for challenges that teachers experienced during the implementation of the said policy. CBAM acknowledges that, during the implementation of an innovation, there are a number of concerns that teachers may have. The CBAM entails three dimensions, namely Stages of Concern (SoC), Levels of Use (LoU) and Innovation Configurations (IC).

The SoC focuses on the personal side of change by teachers who are implementing the policy. In this study, the LoU dimension was used to explore the degree of use of assessment for learning techniques by teachers. This dimension attends to the research question 'Which assessment for learning strategies are frequently used by primary school teachers in the teaching of mathematics?' The SoC was used to address the research question 'What are the challenges teachers experience during the implementation of assessment for learning?'

There are seven SoC which can be regrouped into three categories, namely self-focused concerns, task-focused concerns and impact concerns. Self-focused concerns involve how the new policy personally affects individual teachers during implementation. These concerns comprise awareness, informational and personal stages (Hord et al., 1987). Task-focused concerns involve how the innovation is managed by implementers and they consist of a management stage. Impact-focused concerns are those that impact on students' learning and these cover the consequence, collaboration and refocusing stages (Hord et al., 1987).

LoU focuses on the actual use of the policy by teachers. Hall and Hord (2001) identify several LoUs of a new policy, namely non-use, orientation, preparation, mechanical, routine and refinement, integration and renewal. Non-use is the stage where teachers have little or no knowledge of innovation (Gundy & Berger, 2016). Orientation is where the teachers are actively seeking information about the innovation and the preparation stage is where teachers indicate an intention to use the innovation by acquiring materials and resources necessary for use (Hall & Hord, 1987). At the mechanical stage, teachers focus on the day-to-day use of the innovation and have little time for reflection, while at the routine and refinement stage their use of the innovation has stabilised and they start making changes to the innovation in order to improve students' learning (Hall & Hord, 1987). Conversely, at the integration stage, teachers are making efforts to use the innovation in collaboration with their colleagues. During the renewal stage, teachers re-evaluate the quality of their use of innovation and seek more effective alternatives.

Finally, the IC clarifies what the innovation or change actually looks like and whether it has been diluted or distorted. IC also establishes adaptations made during implementation (Hall & Hord, 2001). However, the purpose of this study was to explore the SoC and LoU dimensions as the study focused on the challenges and aspects of the innovation used by teachers as they implemented the innovation, not how the innovation was being implemented.

Methodology

The study followed a case study research design in which four female mathematics teachers were studied in considerable depth. Case studies seek to understand how cases influence and are influenced by their context (Gall et al., 2015). For Yin (2012, p. 4), case studies provide 'an up-close in-depth understanding of a single or small number of cases set in their real-world context'. Thus, in this study, the researchers studied four teachers in-depth and this provided them with a valuable and greater understanding of teachers' behaviour as they implemented assessment for learning techniques. The study was carried out in three primary schools in Maseru. The target population was mathematics teachers in Grades 1–4 because these were the teachers who were already using assessment for learning techniques as per the Curriculum and Assessment Policy.

The participants were purposively selected and had also gone through training on assessment for learning. Teacher 1 was teaching Grade 1, which had 74 learners. Teacher 2 was teaching Grade 3, which had 68 learners. Teacher 3 was teaching Grade 1, which had 76 learners, while Teacher 4 was teaching Grade 4, which had 42 learners. Data were collected using two

different sources, namely semi-structured interviews and participant observation. In the first stage, teachers were observed using an observation schedule. Each teacher was observed twice over a period of two weeks. However, the first observation was not recorded as we wanted both the learners and the teacher to get used to our presence. The lessons that were observed and recorded covered mathematics topics like rounding off and multiplication of two-digit numbers. The purpose of classroom observations was to see which assessment for learning techniques teachers managed to put into practice. Furthermore, classroom observation was meant to reveal the contextual challenges that teachers experienced during the implementation of assessment for learning strategies. A week after classroom observations, teachers were interviewed using an interview protocol and the interviews were recorded using an audiotape. Teachers were asked to indicate assessment for learning strategies they normally used and found helpful. They also explained why they found the strategies helpful in promoting learners' understanding of mathematics. Lastly, teachers were asked to explain the challenges they encountered when implementing assessment for learning.

Data collected from interviews were transcribed while those from observations were merged into transcripts. Data were then coded in order to generate categories which were later assigned themes. The two main categories were *assessment for learning strategies commonly used by teachers in the teaching and learning of mathematics* and *difficulties encountered by teachers in the implementation of assessment for learning in the teaching and learning of mathematics*.

Research Findings

Category 1: Assessment for Learning Strategies Commonly Used by Teachers in the Teaching and Learning of Mathematics

Under this category, the main themes are teacher-focused strategies and learner-focused strategies.

Theme 1: Teacher-focused Strategies

This theme addresses the assessment for learning strategies that teachers frequently used in the teaching–learning of mathematics.

Learning Intentions

During classroom observations, all teachers communicated learning intentions to the learners at the beginning of the lesson, such that learners knew right from the beginning what they were expected to learn. Interviews also revealed that teachers saw the importance of communicating learning intentions with their learners, as highlighted by Teacher 4:

I always try to share learning intentions of the lesson with my learners because it is important for them to know what they are going to learn and be able to do as a result of their learning. This might also motivate them.

Success Criteria

Regarding success criteria, all observed teachers did not negotiate the criteria with their learners; instead, they wrote the success criteria on the board, as well as reading and clarifying them at the beginning of the lesson. However, during the lesson, teachers continually reminded learners to check their work against the success criteria. Below is an example of the success criteria used in one of the classes observed, where the goal was to round three-digit numbers to the nearest hundred using a number line (Figure 1).

All of the observed teachers provided learners with process success criteria which were focusing on the steps to be followed or the mathematical procedure for finding the solution. This could be seen from success criteria provided by another teacher where learners were multiplying a two-digit number by a two-digit number (Figure 2).

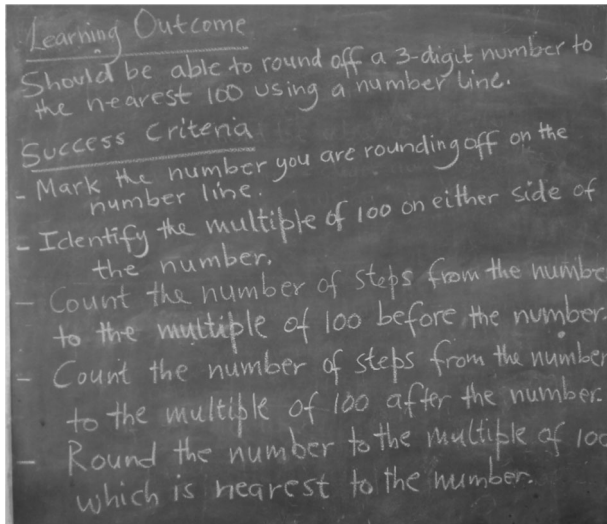


Figure 1. Rounding three-digit numbers to the nearest hundred using a number line

During the interviews, all teachers talked at length about the importance of writing and sharing success criteria with learners. Elaborating on the importance of success criteria, Teacher 1 pointed out that '[t]he use of success criteria helps learners to check their work and make my work easier'; she further indicated that '[t]hrough success criteria, learners are able to do the work on their own by just following the steps. They enjoy doing mathematics'.

The importance of success criteria in promoting learner participation was also raised by Teacher 3, who reiterated that:

I provide them with steps which guide them towards reaching the learning goal. Learners know that they have to follow all the steps in the order given in order to reach the answer. The map guides learners.

Provision of Regular and Descriptive Feedback

One of the attributes of assessment for learning is the provision of regular, timely and descriptive feedback to learners. This helps learners to know their strengths and weaknesses and take remedial steps

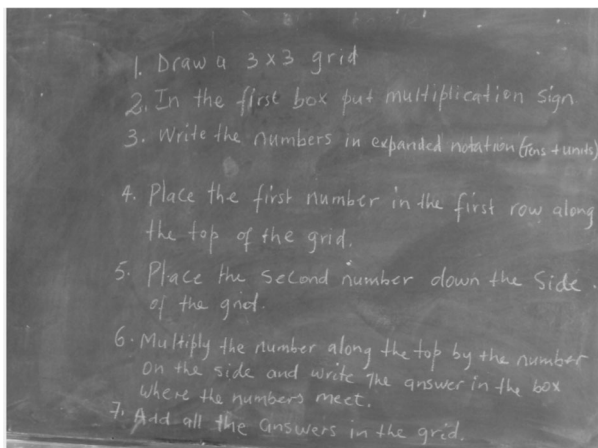


Figure 2. Multiplying a two-digit number by a two-digit number

where necessary, on time. Teacher 2 acknowledged the importance of providing feedback to the learners. She indicated that:

when I teach I have to keep on assessing my learners, I have to assess my learners regularly, learners are being assessed on small content covered and this is done regularly, ... assessing learners regularly helps them understand what has been taught unlike what we used to do in the past when we taught them a lot of content and then assess it at the end of the lesson.

Teacher 4 concurred by saying that '[a]s I teach, I always provide my learners with feedback which helps them to see where they are in terms of their learning ... it also helps me to emphasise important points in the lesson'.

By and large, participants seemed to be at the *mechanical stage* of CBAM, as they demonstrated knowledge about some of the assessment for learning strategies—although these strategies were oversimplified. They were very clear about sharing the learning intentions with their learners and also seemed to know what they are. However, regarding success criteria, they seemed to be confused about what they are and what they are intended for. This is evident from what the teachers said. For example, teachers illustrated that success criteria were about following steps rather than using them to help learners understand the mathematical process, through which they could attain the learning intention. Furthermore, teachers viewed success criteria as something that could be used to replace them. For example, Teacher 4 had this to say:

Success criteria help learners to check their work and make my work easier.

Concerning feedback, classroom observations revealed that teachers provided learners with regular and timely feedback as it was done during the lesson. However, the type of feedback they provided was mainly symbolic and oral. Teachers would firstly give learners one of the following symbols: the triangle to indicate that the learner has met all the requirements of the task; the angle to illustrate that the requirements have been partially met; or the line to show that requirements have not been met (Figure 3). Thereafter, the teacher would ask learners who had partly or not met the requirements to check the guidelines in the success criteria. For example, the teacher whose lesson was on rounding off a three-digit number to the nearest hundred would emphasise that the answer should be a multiple of hundred that is close to the number. This was done with learners who partly met or did not meet the requirements. In reality, teachers who participated in the study did not provide learners with descriptive and elaborate feedback which could help them identify their strengths and weaknesses, as the symbols used did not indicate this.

Theme 2: Learner-focused Strategies

This theme involves learner-related assessment for learning strategies that learners frequently used during mathematics lessons.

Self-assessment

During lesson observations, most learners were seen to check the success criteria and compare them with their own work. This was evident when one learner standing in a queue to be marked looked at the success criteria on the board and said '*acerrrrrrr*' and went back to his desk to do some corrections to his work. By looking at the success criteria, the learner was able to identify some mistakes in his work. When interviewed, Teacher 2 reported that:

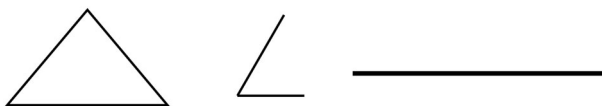


Figure 3. Feedback symbols

My learners are now able to self-assess themselves because of the success criteria, they now know that when they have missed a certain stage, their answers are going to be wrong, they are already assessing themselves, so even before they get to me as a teacher they already assess themselves when they are standing waiting to be marked, they check to see if they have followed all the steps, if they see that they have missed something they go back and write what they have missed.

Peer Assessment

Classroom observations also showed that learners were working together and helping one another in their small groups. Learners seemed to enjoy working in groups and assessing one another by showing peers where they had gone wrong. They were scaffolding one another voluntarily. The importance of peer assessment was also raised by teachers during interviews. Teacher 4 stated that '[l]earners were now able to assess each other in their groups as they refer one another to the steps outlined in the success criteria'.

As has already been stated above, teachers who took part in the study seemed to be at the *mechanical stage* of CBAM. Teachers were aware that learners self-assessed and also assessed their peers, yet educators did not provide learners with the guidelines on how to carry out these assessments nor did they assist them regarding how they should assess.

Category 2: Difficulties Encountered by Teachers in Implementing of Assessment for Learning in the Teaching and Learning of Mathematics

Under this category, two main themes emerged, namely, teacher-related concerns and classroom-related concerns.

Theme 1: Teacher-related Concerns

Teacher-related concerns focused mainly on teachers' own understanding of the policy, provision of training and the support they received in implementing assessment for learning.

Clarity of the Policy

One of the challenges faced by teachers was that they were not well conversant with this mode of assessment, such that they did not know what was expected of them. Lack of clarity of the policy was discussed during the interviews, where Teacher 3 reported that:

I am already struggling with this curriculum, and it is even worse with assessment because I do not know what to do. When I ask other teachers, they also don't know, even the principal does not know and the Ministry also does not give us any support.

In situations where teachers lack a clear understanding of the policy they have to implement, it becomes practically impossible for such teachers to implement the policy as expected.

Provision of Training

All teachers raised a concern that the training that was provided prior to the implementation of the assessment for learning policy was inadequate. In her own words, Teacher 4 said:

Hei! This new curriculum, we were not given any proper training and orientation about it and now we have to use it and this new method of assessment, this is too much for us.

A similar view was expressed by Teacher 3, who stated that '[w]e old teachers need more training and support on these new techniques'. It is imperative that, prior to the implementation of any new practice, teachers be provided with sufficient training as it will equip them with the necessary knowledge and skills for proper implementation of the new practice.

Teachers' Support

During the implementation of a new practice, implementers require a lot of support for effective implementation of such a practice. This will help in boosting teachers' confidence, informing them whether they are implementing the new practice as expected and getting assistance on time if there are any problems. In this study, the need for support in implementing assessment for learning was evidenced by Teacher 1, who said '[t]his approach is new and we do not have anybody helping us. Even when the inspectors are here, they do not assist us instead they tell us to help one another'. It is therefore important that teachers be given assistance during the implementation phase if the new practice is to be a reality in the schools.

Teachers who participated in the study generally seemed to be more concerned about how innovation would affect them as individuals. Some of their concerns were that they were not sure what was expected of them as they were not given proper training or assistance on the implementation of the innovation. As per CBAM, these concerns were mainly *self-focused concerns*.

Theme 2: Classroom-related Concerns

In the actual implementation of a new practice, there are many classroom factors that may impact on the implementation of such a practice. Some of the classroom factors which affected teachers' implementation of assessment for learning were teacher–learner ratio and availability of resources.

Over-crowding and Increased Workload

The average class size of the classes observed was between 60 and 70 learners. This is incredibly high, especially when looking at the amount of work involved with using assessment for learning strategies. Teacher 1 raised some concerns about having an overcrowded classroom. She illustrated that '[w]ith a large class like mine it takes a lot of time to write statements for each learner'. Similar concerns were raised by Teacher 4, who exclaimed that 'in large classes we take a week or more to write performance statements for every learner when we administer formal assessment'. Overcrowded classes were also evidenced during classroom observations where teachers' and learners' mobility within the classroom was restricted. Furthermore, teachers were complaining about an increased workload that resulted from the introduction of assessment for learning in the schools. Teacher 2 asserted that '[t]here is a lot of paperwork to be done if you want to do it thoroughly'. Similarly, Teacher 1 also pointed out that 'Hei! Now we have to write performance statements for every learner in every learning area. You spent more time on paperwork than the actual teaching.'

Inadequate Resources

Effective implementation of assessment for learning is resource-intensive. Teachers who participated in this research raised a concern about insufficient resources available in the schools. Teacher 4 indicated that:

There is a shortage of material such as the syllabuses, only one copy per grade is available in this school and all of us teaching the same grade have to refer to it. Also, there is a shortage of materials such as charts and markers though the new curriculum requires the use of them.

Teacher 1 concurred by saying that 'We are not provided with assessment guidelines and assessment tasks for learners in some grades and yet we are expected to use them'. The issue of lack of resources was also seen during classroom observations where some of the teachers could not perform certain activities due to the lack of resources.

The above-mentioned challenges impact directly on what teachers do in the classroom as they teach. Overcrowded classrooms, increased workload and lack of resources result in teachers not carrying out their duties as expected. Hence, these challenges are *task-focused concerns* as per CBAM, as they are directly related to teachers' day-to-day task.

Discussion, Conclusion and Recommendations

In this study, the CBAM was used to explore the level of use and SoC as teachers implement assessment for learning strategies. The model was employed to identify assessment for learning strategies which were frequently used by primary mathematics teachers and also to establish the challenges teachers experienced during the implementation of it. With respect to the LoU, all participants seemed to be at the mechanical stage as they showed knowledge of some assessment for learning strategies, although they oversimplified them. Regarding SoC, teachers appeared to be at the self-focused and task-focused concern stages as they talked about the challenges that affected them as individuals and also those that affected their teaching.

By and large, participants had some challenges regarding their own understanding of the policy, the inadequate training they received and minimal support provided. These challenges can be referred to as *self-concerns* as per CBAM because they directly impact the teachers (Hord et al., 1987). Not only did teachers have self-concerns, but they also had challenges regarding the availability of resources—which could be classified as *task-concerns*, as they are directly related to their day-to-day tasks.

The obvious challenges that were evident in this study were the shortage of resources, high teacher–learner ratio, increased workload and reduced teaching time. Teachers clearly illustrated that they spend too much time assessing learners individually such that they compromise their teaching time. This may have adverse results on the quality of education that learners receive. The issue of overcrowded classes was also raised by Kapambwe (2010) and Nyambe (2015). Lack of teaching and learning resources could also be a threat to the proper implementation of assessment for learning. The unavailability of resources was also noted by Kapambwe (2010), who found that teachers complained that they had inadequate teaching and learning materials and equipment.

Generally, the findings revealed that primary mathematics teachers were frequently using the following assessment for learning strategies: communicating learning outcomes, sharing success criteria and providing learners with timely feedback. Although teachers were using these strategies, they were too simplified. Fullan (2001) illustrates that, if policy implementers are not clear about their roles in the implementation of the policy, they may sometimes demonstrate ‘false clarity’, which was visible during classroom observations. This finding confirms the analysis of Raselimo and Mahao (2015), who predicted that there might be partial implementation of assessment for learning policy at the classroom level. However, this was not surprising as teachers complained of not receiving adequate training about assessment for learning practices and were also not given any support during the implementation phase. Similarly, Nyambe (2015) also found that teachers were constrained by a lack of training in implementing an assessment policy in Namibia. The issue of the importance of support and training in implementing innovation has been raised by numerous researchers (Heitink et al., 2016; Wylie & Lyon, 2012).

This study found that, through the use of success criteria, learners were able to reflect on their work and do the corrections without the help of the teacher. Furthermore, the provision of guidelines success criteria was very important in assisting learners to reflect. An example of a learner reflecting on his work was seen where the learner made a remark ‘acerrrr’ after reading the success criteria and then went back to his seat to correct his work. Reflection is a very important process that assists learners to self-assess and aids them in understanding mathematics. Furthermore, findings showed that learners used peer assessment as they were seen helping one another in their groups. Therefore, if mathematics teachers want to promote learners’ self-reflection, they should practise assessment for learning in their classrooms.

Although the study mainly focused on SoC and LoU, the results showed that LoU and IC are intertwined. In exploring the LoU, aspects of IC surfaced. In looking at the aspects of assessment for learning used by teachers, some modifications on some aspects were also picked up. For instance, the oversimplification of success criteria and the type of feedback teachers provided depicted the IC component of CBAM. Hence, it is also important to look at the IC component in exploring LoU aspects of CBAM.

In conclusion, for primary school teachers to use assessment for learning in an endeavour to improve the teaching and learning of mathematics, they should be trained on the proper use of assessment for

learning strategies. Moreover, teachers should be encouraged to improvise their own teaching and learning materials as most schools do not have standardised instructional materials. In addition, teachers should establish communities of collaborating primary mathematics teachers to address the issue of inadequate training and lack of support. Finally, teachers should receive sustained in-service training when a new curriculum policy is introduced.

Lastly, a further in-depth study is needed to examine both LoU and IC dimensions of CBAM, in order to establish the extent to which assessment for learning is implemented and the configurations made.

Disclosure Statement

No potential conflict of interest was reported by the authors.

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