Moving to Continuous Assessment in South African Higher Institutions: Pros and Cons

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Abstract

Higher learning institutions in South Africa are shifting from conventional summative assessment to integrated continuous assessment incorporating both summative and formative assessment aspects. In this study, the two models of assessment were distinguished and their state of implementation in some higher learning institutions of South Africa assessed. Furthermore, the benefits and demerits emergent during implementation of continuous assessment in the institutions were evaluated. Findings showed that the implementation of continuous assessment has been taken up in universities, secondary schools and tertiary colleges of the country. The success in implementation of the model of learning was institution-specific and contextual. Benefits that accrued from continuous assessment were a better engagement between learners and instructors, better knowledge retention and self-regulation and acquisition of a continuous reading culture, which had positive effects to the critical-thinking and problem-solving skills of learners in their future careers. The benefits were challenged by continuous overload to both learners and instructors, limited finances to design, implement and equip continuous assessment models and lack of prompt feedback by instructors to learners. To reverse the challenges of the model in South Africa, better resources and financial support should be offered to higher institutions of learning to design and plan accordingly on its implementation. These solutions should be supplemented with intensive research on the validity and suitability of continuous assessment use in such institutions.

Keywords: Continuous assessment; Formative assessment; Higher learning institutions; South Africa; Summative assessment

1. Introduction

Assessment describes, “graded and non-graded tasks, undertaken by an enrolled student as part of their formal study, where the learner’s performance is judged by others (teachers or peers)” (Bjaelde et al. 2017, p.3). Assessment is therefore an imperative component of learning and teaching even in higher education (Holmes 2018). It drives learning and determines the learning approaches to be used and therefore, is a description of educational curriculums (Al-Maskari 2015). Muskin (2017) observed that assessment molds the interaction of students with a given module/course to complete a learning program while Sanz-Perez (2019) noted that assessment is key in framing learning among students. In most events, learners engage in various educational activities if they know they contribute to their overall assessment in the form of marks or grades. For this reason, assessments help to discern aspects that students value as important in their educational programs or otherwise, which shapes their attitudes and approaches to learning (Day et al. 2018a, b). Using appropriate assessment activities, students can devote more effort and time to learning tasks, which enhances the desired outcomes of learning (Fynn and Mashile 2022). Therefore, assessment improves student engagement and shapes the attitude learners have towards a specific module/course in an educational program (Holmes 2018).

They are various reasons why assessment is important in higher education. According to Walde (2021), it is used in ranking and/or grading the performance of learners. Summative assessments through exams, usually conducted at the end of a teaching period (such as semester or term) are used in establishing such ranks or grades. The method is preferred since it is perceived as fair due to its supervised nature preventing students’ dishonesty as Kehrwald and Bentley (2018) noted. Using a single exam to rate or rank a student could however be disadvantageous in that such assessment is not holistic in its coverage of learning outcomes, it does not emphasize on real life applications of learnt concepts and induces unwarranted anxiety to learners as exams near due to the high stakes involved and the need to cram. The second benefit of assessments is that they serve as proof or certification of having undertaken a specific module/course/program to relevant parties (Yan and Brown 2021). Such an assessment of learning is important to show completion of a course, skills acquired and also during seeking for internships and employment. Assessment of learning in higher education just as ranking and grading is summative (Bjaelde et al. 2017).

Assessment is a key component of pedagogy (Muskin 2017) in that it supports knowledge retention (Andersson et al. 2019) and gives feedback to students (Alique and Linares 2019). As such, it

serves to enhance achievement of predefined learning outcomes (Cifrian et al. 2020) and motivates learners to work hard to meet their educational goals (Bjaelde et al. 2017). By serving this purpose, assessment that is for learning and, which is formative rather than summative is realized by collating information about learners involved in an educational program to plan and make a teaching and learning guide that caters for all of their needs. With formative assessment, learners nurture traits such as self-control and self-awareness to achieve their educational objectives in a specific course/module/program. Formative assessment is continuously offered during the learning period and provides the spacing and testing of cognitive benefits unlike the summative assessment (once-off exam) (Day et al. 2018c; Cifrian et al. 2020). The spacing effect encourages students to pace their knowledge acquisition over prolonged periods rather than when exams are near as is the case in the case of summative assessment. The testing effect is based on iteration of concepts for better knowledge retention. For formative assessment to be implemented successfully, a number of considerations must be taken and a proper evaluation of its benefits and disadvantages compared to summative assessment is essential. This is because different strategies are used in continuous formative assessment and prior planning is required to design educational programs using the assessment (Assefa et al. 2017; Fynn and Mashile 2022). This study focused on the implementation of continuous assessment, which combines both summative and formative assessment aspects and with a specific focus on the South African higher institutions and discusses the pros and cons of such a system towards improved educational delivery with positive outcomes to learners through knowledge retention.

2. Types of assessment

Assessment is categorized into two types; summative and formative. Summative assessment is the assessment of learning while formative is the assessment for learning. In the former, tests or examinations are offered at a predefined time to assess if learning occurred and record, grade or certify progress and proof that learners meet the performance prerequisites on a given module/program/course (Vahed et al. 2021). In the type of assessment, learners are awarded numerical scores exclusive of or with limited feedback (Ismail et al. 2022). For this reason, the form of assessment is not used for learning. By using one exam to grade learners' performance, instructional adjustments cannot be made to the learning models used to improve resultant outcomes, which makes summative assessment inflexible and context autonomous. Al-Maskari

(2015) and Ismail et al. (2022) highlighted the lack of feedback and limited instructional adjustments as the challenges in using summative assessment for learning.

Formative assessment describes to the frequent, continuous, interactive assessment of learners' understanding and development to better understand their needs and take corrective measures during delivery of a course/module/program (Alahmadi et al. 2019). The tasks performed are accompanied by feedback, which makes continuous assessment a diagnostic tool at the end of units/modules. Additionally, the assessment serves to bridge gaps associated with students' misconceptions by providing feedback. Formative assessment is conducted using a variety of strategies such as exhibitions, portfolios, oral presentations, tests, reading quizzes, collaborative activities, written assignments and projects. Such strategies enhance innovation, problem-solving, collaborative learning and critical thinking skills among learners in addition to testing and quantifying their competencies, which cannot be done in a single exam (Assefa et al. 2017; Fynn and Mashile 2022). Furthermore, the strategies prepare them for competencies they require in their careers and encourage peer-to-peer assessments and feedback (Cifrian et al. 2020).

Although the mode of delivery between summative and formative is clearly discrete, drawing a categorical distinction between the two models and during their implementation can be difficult as noted by Black (2015). Vahed et al. (2021) also made similar suppositions stating that despite the massive literature on the assessment types over the last thirty years, no author has predicted or explained clearly the implementation of summative or formative assessment. The trend could be because grades resulting from summative assessments can be used to determine the level and rate of understanding among learners and hence inform decisions on corrective measures to be taken during teaching and learning. In this way summative assessment serves as a decision tool to improve learning experiences. Similarly, formative assessments can provide support during knowledge acquisition in addition to contribute to the overall grade. In this way formative assessments serve a summative role. The interactions between the two forms of assessment and their interconnectedness are represented in Figure 1 (Popkova 2018). Muskin (2017) also noted that many formative assessment tasks also have summative assessment roles, which is a cause of confusion in assessment implementation. Due to the interconnectedness of the two assessment types, Cookson (2018) and Hernandez (2012) suggested the need for their incorporation in the learning processes in a feed-forward approach that has high precedence for the issuance of

feedback from and to the learners and instructors. Fynn and Mashile (2022) also suggested the need to evaluate both assessment of learning and for learning using continuous assessment and feedback delivery for learners. In this study, continuous assessment and its application in higher education is focused on to understand it weaknesses and optimize its strengths in the education system.

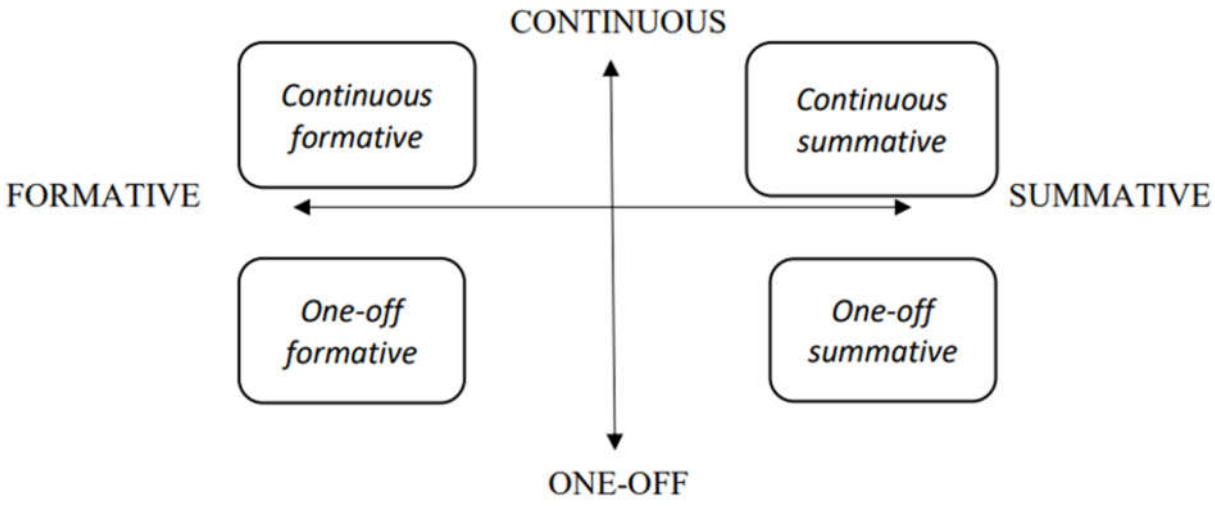

Figure 1: The interconnectedness between formative and summative assessment models (Popkova 2018, p.334)

3. Continuous Assessment

Continuous assessment describes a series of activities or tasks that are voluntary and/or graded and offered during delivery of a program/course/module in place of a summative assessment (Abera et al. 2017; Day et al. 2018c). The assessments are frequent and serve to enhance learning engagement and correct emergent learning weaknesses among students by providing feedback (Walde 2021). Past assessment activities in higher learning institutions were skewed towards being summative by awarding marks or grades to students using a written exam. This mode of assessment still prevails in many institutions according to Fynn and Mashile (2022). However, novel educational theories, which are student-centered seek to change assessments and teaching methods and consequently, lead to a shift from summative to formative assessment that values continuous assessment of skills and acquired knowledge (Ramon-Munoz 2015). With such predispositions, developed countries such as the United States of America, United Kingdom, New Zealand and

Australia have been using continuous assessment for more than 40 years (Bjaelde et al. 2017). The globe is also widely taking up the assessment approach and some education conventions such as the European higher education area of 2010 (De La O Ganzalez et al. 2015), regulatory institutions and agencies (Muskin 2017) and national legislations are supporting such assessment for learning ideologies.

Studies focusing on the effects of adopting continuous assessment reported different outcomes. De La O Gonzalez et al (2015) and Clariana et al. (2011) reported that the assessment method improved student grades in higher learning institutions. Ramon-Munoz (2015) noted that learner grades resulting from continuous assessment were not high as those in exclusive use of summative assessment. Achievements of students in terms of skills acquired and knowledge retention were found to be higher using continuous assessment (Ramon-Munoz 2015; Santos et al. 2018). Another study by Day et al. (2018c) did not identify performance differences among learners enrolled for continuous or summative assessment. Students were convinced that continuous assessment enhanced their knowledge acquisition and overall performance in a perception study on the model for learning (Rana and Zubair 2019). The authors also noted that assignments, quizzes and tests were the commonest forms of formative continuous assessments. In other studies, continuous assessment was reported to encourage student engagement during delivery of a course (Holmes 2018) and with regular assessments, learners were less likely to postpone their learning activities (Clariana et al. 2011). Academic performance was not influenced by the specific continuous assessment used (if it was assignments, partial exams or written assignment) (Day et al. 2018c). The different outcomes are a result of the extent and contextual variations in which continuous assessment is implemented by the specific institutions of focus.

Continuous assessment has some common characteristics, which emanate from its ability to provide feedback on learning achievements. According to Day et al. (2018a), continuous assessments provide both qualitative and content-related feedback in the form of elaborations, correct and/or incorrect answers. The authors noted that rubrics were common feedback modes in written assignments. Continuous assessment feedback preferences were different based on the performance categories of the learners (Day et al. 2018a). High performing learners did not value rubrics as low-performers who in addition to preferring a rubric, needed further explanations and demonstrations of content assessed. Continuous assessment was reported to enhance self-

regulation (Pereira et al. 2016). The observation was made when learners were assessed using oral presentations, groupwork assignments and projects that were student-centered. Through such modes of continuous assessments, self-regulated learners appreciate feedback positively and used it to enhance their knowledge and skill acquisitions (Pereira et al. 2016; Alique and Linares 2019). The role of feedback from peers and/or teachers/instructors during continuous assessment was to nurture new mental constructs of insight to students through alternative views (Nayak et al. 2020). Prompt provision of feedback during continuous assessment enhances motivation and knowledge acquisition among learners (Day et al. 2018c). Alique and Linares (2019) as well as Bjaelde et al (2017) also noted that rapid feedback was helpful to students in acquiring real-life applicable competencies in addition to enabling them to strife for better performance in subsequent assessments. The resultant success from implementing continuous assessment in higher learning institutions is dependent on the context of application (Abera et al. 2021; Walde 2021). It is therefore imperative to evaluate the pros and cons of continuous assessment at specific application contexts to assess the viability of its success and plan on overcoming the emergent cons and optimize resultant pros of the model for learning.

4. Implementing Continuous Assessment in South African Higher Learning Institutions

South African institutions of higher learning have and are adopting continuous assessments in their education systems. This undertaking is underpinned on the 2001 provision of the South African education department on educational curriculums requiring them to use school-based tasks and ongoing diagnostic tools that apply varied assessment models to quantify performances of students (Ramalepe 2015). Although the definitions of the assessments vary, their commonality is that they include aspects of both formative and summative assessment. For instance, in Durban University of Technology formative tasks such as simulations, portfolios, research projects, concept maps, technical reports, case studies, simulation studies, field and laboratory reports were used in addition to an end of semester exam for coursework assessment (Vahed et al. 2021). The University of Johannesburg has also adopted continuous assessment incorporating formative and summative assessment. The university uses written assessments, practical works, tests and projects to assess their learners for and of learning (Ouhada 2016). In their declaration, “all assessment, whether formative or summative, is designed to improve learning. However, formative assessment is primarily diagnostic, while summative is an evaluation of the sum of students’ learning”

(University of Johannesburg n.d.). University of KwaZulu-Natal also adopted continuous assessment incorporating formative and summative aspects to improve their education delivery and facilitate better workload management for the students and improve their knowledge retention (Combrinck and Hatch 2012). The combined nature of summative and formative aspects for continuous assessment adopted by the universities is as summarized by Figure 2.

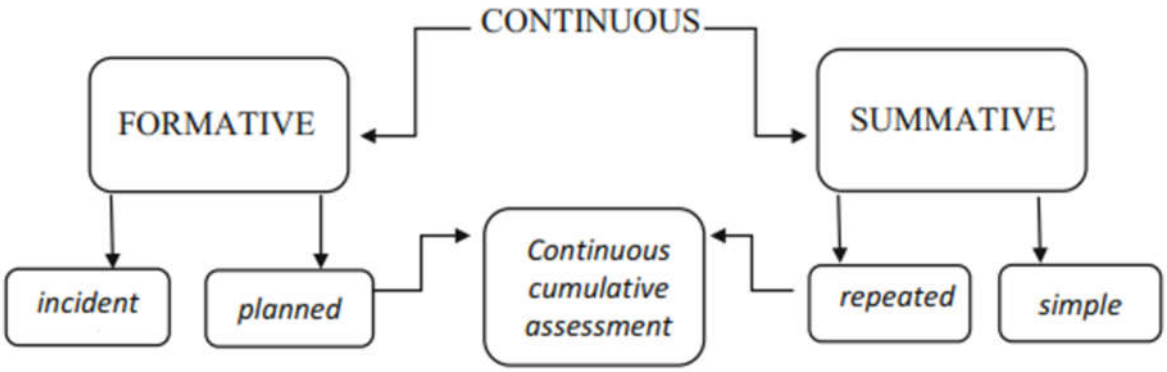

Figure 2: Combination of formative and summative assessment models to continuous assessment (Popkova 2018, p. 335)

The continuous assessments models in the South African universities share several commonalities (University of Johannesburg n.d; Vahed et al. 2021). Firstly, the assessments are both for learning and of learning in an integrated approach. In the continuous assessment approach, courses/modules/programs are weighted based on the time, which they are done, the complexity of tasks given and the importance of the skills/knowledge being assessed. In assessments that are weighted heavily, learners are offered opportunities to resubmit and rework tasks using the initial feedback provided and prior to a final submission and computation of the final mark/grade. Resubmission or rework occurs if the subminimum (usually 40%) is not realized by a learner during the final exam. Most often, the resubmission mark is fixed at 50%. In situations where learners miss one or more continuous assessments, the college/faculty applies predefined principles and rules regarding integrity of the qualification or subject matter and fairness to the learners to make a decision on the awarded mark. Applying the continuous assessment model demands meticulous record keeping and application of penalties for late submissions by instructors/lecturers. The final grading is computed after learners complete all weighted summative tasks and thereafter no resubmission and reworking opportunities are offered. If the

final mark is 50% and beyond, the learner is deemed to have passed a module/course/program while failure occurs if the awarded mark is 49% or less.

The implementation continuous assessment begins with comprehensive planning on the tasks to provide students during assessment for learning as shown in Figure 2. At this stage, the description of the tasks to be completed is made and a criterion for feedback delivery defined (Bjaelde et al. 2017). Additionally, a specific module/course/program is categorized to a number of outcomes based on key knowledge areas to enable the design of formative assessments based on the outcomes. This step is followed by sending out the tasks as learning is continuing for the learners to make attempts on them either virtually or physically. Using the resultant drafts, instructors can provide feedback to enable further improvements prior to the final submission. Giving students a chance to resubmit their work ensures they can pass assessments of each outcome and demonstrate knowledge retention (Ouhada 2016). Final submissions of formative assessments are followed by summative assessment and the compilation of the total marks for grading of learner performance. In the University of KwaZulu-Natal, the approach was used to cover the macroeconomics model to second year economics students (Combrinck and Hatch 2012). Similarly, in the University of Johannesburg, the feedforward model was used to deliver the Telecommunications, Digital Signal Processing and Signal and systems modules for learners pursuing Electrical and Electronic Engineering Science (Ouhada 2016). Van Zyl and Roux (2021) described the implementation phases as feedforward approaches to realizing continuous assessment. The authors noted that the success rate of such undertakings differ based on the unique conditions and environments that higher learning institutions operate. It is therefore essential to focus on the emergent pros and cons of continuous assessment implementation in South African higher institutions.

5. Pros and Cons of Continuous Assessment

The implementation of continuous assessment in South African higher institutions is growing to be a highly preferred mode of teaching and learning compared to the conventional summative assessment. Students prefer it due to reduced anxiety and pressure unlike in the case of summative exams (Rana and Zubair 2019). Additionally, continuous assessment focuses more on application of knowledge to solve real life problems and hence students perceived it as authentic (Villarroel et al. 2020). At the University of South Africa, open distance and e-learning (OdeL) students

preferred continuous rather than summative assessment due to its authenticity benefits in addition to reduced pressure when preparing for end of semester exams (Fynn and Mashile 2022).

Continuous assessment is beneficial in that it eliminates procrastination by learners throughout the learning process. With the model, learners work throughout the teaching period, which promotes a continuous study culture (Santos et al. 2018; Santovena-Casal 2019). In this context, students concentrate on comprehending their learning activities rather than memorizing content for purposes of summative assessment. In the University of Johannesburg, continuous assessment serves to ensure that learners work consistently and take responsibility of their knowledge acquisition process based on reported feedback from formative assessments (University of Johannesburg n.d). In a similar observation, students of the University of KwaZulu-Natal preferred a continuous mode of learning and assessment since it developed their self-regulation abilities in addition to allowing them to test, rate and improve their individual performance based on feedback received (Combrinck and Hatch 2012). Through self-regulation, students were able to manage their time properly, which was a prerequisite to successful uptake of continuous assessment. Lack of time management among OdeL students of the University of South Africa resulted to a struggle, where students only aimed to meet the pass mark in assessment for learning rather than acquire knowledge from the content taught (Lynn and Mashile 2022).

In a study on the effective adoption of continuous assessment in the Durban University of Technology, several benefits were associated continuous assessment (Vahed et al. 2021). First the model encourages students to be deep learners rather than exam crammers. The same logic was used in implementing formative continuous assessments in tertiary vocational education and training (TVET) colleges of South Africa where learning was outcome-based with a motive beyond passing exams to enable learners to acquire knowledge as they evaluate and review themselves and their peers (Department of Higher Education and Training, DHET 2018). Through deep learning in continuous assessment, students can create advanced knowledge from learning and use it to advance the fourth industrial revolution in South Africa in addition to advancing their careers in the future. Van Zyl and Roux (2021) also made a similar observation after assessing the viability of implementing continuous assessment in the University of South Africa. The feedback provided to learners from their instructors and peers is imperative in self-reflection, which eventually leads to self-improvement and bettered performance in subsequent learning activities. This trend was

also noted in the KwaZulu-Natal University in attempts to implement the model of assessment (Combrinck and Hatch 2012). In another study detailing the learning experiences of students from three TVET colleges of KwaZulu-Natal, continuous assessment was found to prompt students to be self-regulating and hence cope with the learning challenges induced by the COVID-19 pandemic (Atukunda and Maja 2022). Leaners also get to engage with instructors/lecturers on the feedback of their progress and approaches to better performance. To the teachers, feedback from students is useful for review and revision of the methods used in content delivery (Vahed et al. 2021).

Even with the discussed benefits of adopting continuous assessment in higher institutions of South Africa, some concerns and challenges have been raised. One of the challenges was inability to practice formative assessment unlike summative models. In the latter, learners used past papers for clues on expected questions while in the former, successful assessment depends self-confidence of the individual learner. Among ODeL students in the University of South Africa, the ability to practice formative assessment was limited and high performing learners did not perform as expected although low performers were able to meet the pass mark (Fynn and Mashile 2022).

Continuous assessment also increased the workload on learners and instructors during the meeting and delivery of course/module/program outcomes. For learners, different courses introduced different assessment activities, which could be overwhelming to attempt and complete (Day et al. 2018a). For instructors/lecturers, marking the assessments and providing feedback promptly could be challenging in classes with many learners who have diverse needs. Among part-time learners in the University of South Africa who were fully employed, continuous assessment model was overwhelming and time intensive especially when students were supposed to complete the assignments during working hours (Fynn and Mashile 2022). The learners therefore found it hard to balance their learning and working time and produce quality outcomes in both cases. In extreme cases, students could not meet the deadline for the assessments as some of them came too early at the learning and teaching period while other deadlines coincided with assessments for other modules/courses and in others the submission dates were changed without adequate communication and consultation with learners. Rezigalla et al. (2017) advised on the need to coordinate continuous assessment model of learning to ensure adequate intervals between assessments and their submission deadlines. Students therefore, completed imminent assignments

to beat the deadline and failed to attend to other classes, which had a negative effect on their overall performance. The trend was reported in three TVET colleges of South Africa implementing continuous assessment model of learning and alluded to the continuous assessment model not meeting all of the learners' needs (Atukunda and Maja 2022). In extreme cases, students of KwaZulu-Natal engineering faculty using continuous assessment model of learning felt the workload was too much, assessment tasks were too difficult to comprehend and that lecturers were insensitive and therefore, quit their studies (Pocock 2012). Lecturers/instructors could not provide timeous feedback for formative assessment due to the overwhelming workload. As such, students could not use the feedback to improve their understanding of concepts or for improved performance in subsequent assessments, which had negative effects on their overall performance. This observation was made during continuous assessment implementation at KwaZulu-Natal University where learners could not avoid mistakes from previous assessments using their feedback (Combrinck and Hatch 2012). Walde (2021) noted that without timely feedback, the success of continuous assessment is not guaranteed. In some cases, learners regarded the feedback provided as vague in that, it did not reflect their true nature of understanding content or was not helping to improve performance in subsequent assessments (Fynn and Mashile 2022).

Continuous assessment is design, planning and cost intensive, which means South African higher institutions of learning intending to adopt it fully must invest more finances (Van Zyl and Rouz 2022). However, not all the institutions are willing or able to make such commitments. With inadequate financial investment on continuous assessment, limited equipment and infrastructure were another challenge to successful implementation of continuous assessment learning model. Students should have ample access to internet, learning materials such as projectors, printers, computers and laboratories to complete assessments thoroughly and timely. In South African TVET colleges, the unavailability of the learning materials led to subdivision of classes into groups to be offered same assessment at different times (Atukunda and Maja 2022). In such a situation, the reliability of assessments was compromised and the workload of teachers increased to deliver same assessments severally. Lack of information communication technology tools particularly internet access and print copies of learning materials compromised the quality of assessments submitted and ultimately, students' performance. This observation was made in the University of South Africa where internet lack led to limited engagement of students with instructors, inadequate conduction of research to complete formative assessments and lack of user-friendly devices to

interact with learning materials. Mashile et al. (2020) noted similar challenges in the same university and attributed them as institutional barriers to the success of continuous assessment. A lack of proper plans and designs to implement continuous assessment was attributed to its failure in secondary schools and tertiary colleges of Johannesburg as reported by the Gauteng Department of Education, South Africa (Holcroft 2014).

With knowledge of the pros and cons of implementing continuous assessment in South Africa, higher institutions in the country should seek to optimize the pros and eliminate the barriers of success moving forward. Ramalepe (2015) highlighted this suggestion in a study on a successful model for implementing continuous assessment in South Africa's Limpopo secondary schools. The author noted that a successful continuous education model should be coupled with support and adoption motivation from involved stakeholders, better planning and designing, monitoring and evaluation of progress and elimination of budding bottlenecks. In a study evaluating the fitness for the use of continuous assessment in the Durban University of Technology, Vahed et al. (2021) recommended the need for institutional support, adequate resources' investment and a better understanding of the reciprocal process of continuous assessment to both learners and instructors/lecturers to improve its usability and optimize it benefits. Intensive research by academics to strengthen the validity and reliability of the model for use to promote knowledge delivery and acquisition is required and recommended (Vahed et al. 2021; Mashile et al. 2020). Intensive research would also enable best-fit and institution-specific implementation of continuous assessment for learning that is environment, design, cost, planning and time sensitive to both learners and instructors/lecturers.

6. Conclusions

This study established that introducing continuous assessment models in higher learning institutions of South Africa could contribute to deep learning, knowledge acquisition and retention. These benefits are enhancers of the fourth industrial revolution in the country and also set pace for future careers of learners to be critical thinkers and problem-solvers. However, the study established that the framework for learning is cost-, time-, design- and plan- intensive and many barriers hinder its successful implementation. Such barriers include lack of support by involved stakeholders, poor planning and designing of the model's implementation roadmap, inconclusive suitability studies on the model's validity and resources' limitations. It is therefore essential to

assess the context in which continuous education is being implemented and thoroughly plan and design for its uptake. Such actions must be accompanied by monitoring and review of progress made. Additionally, education regulators in the country must offer support; financial, motivational or resource-based to steer up the implementation of continuous education, validate its fitness through research and manage its emergent challenges to instructors/lecturers and learners for its optimal benefits.

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