Towards a Quality Assurance Framework for Online Assessments for Business Education Subjects in the FET Phase

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Abstract: The COVID-19 pandemic has precipitated a shift to online assessments for educational institutions worldwide and exacerbated challenges related to assessment implementation and processes. In South Africa, the quality of online assessments in schools remains a central concern, partly due to the lack of consensus on the criteria that establish such quality. The objective of this study is to establish a framework to create transparency and consistency when summative online assessments are applied in the FET band (Grades 10 to 12). The methodology employed consists of a preliminary meta-study of research related to online (summative) assessment, with a focus on quality assurance over a five-year period from 2018 to 2023, using one search engine.The main findings suggest that four dimensions are required to ensure quality assurance for online assessments: a policy dimension, which represents specific regulatory or statutory bodies to ensure quality assurance processes; presage factors, which are mainly concerned with infrastructure; the people involved (examination bodies, teachers, learners, and school management teams); and the processes applied to ensure continuous collection of information and monitoring of the strengths and weaknesses of the assessment process. The value of the proposed framework lies in the implementation of online assessments that are learner-centred, authentic, trustworthy, and reliable. Moreover, it supports quality assurance in the review and evaluation of online assessment procedures.

Keywords: Meta-study, online assessment, proctored assessment, summative assessment, quality assurance.

1. Introduction

Higher education institutions (HEIs) around the world were largely unprepared for the COVID-19 pandemic and had to transition rapidly to meet new administrative and teaching requirements (Ramrung et al., 2020). Many universities adopted emergency remote teaching, which also required modifications in student assessment. However, the assessment procedures and protocols via online or remote settings were experimental, presenting peculiar challenges across various educational contexts. In South Africa, among the key issues that universities had to address were the digital divide, constrained pedagogical approaches, inadequate proficiency in the use of the learning management system, the quality and integrity of assessments being somewhat compromised, and the unfavourable living conditions of students that made learning from home difficult (Maphalala, Kumalo & Kumalo, 2021). Unproctored assessments raised concerns about plagiarism, grade inflation, and the overall quality of teaching and learning. More stringent security measures had to be implemented to circumvent academic dishonesty. Since

COVID-19, online assessments have taken an innovative turn in education, which could have long-lasting effects on teaching and learning. Contestation regarding the effectiveness of online assessments compared to traditional invigilated paper-based assessments still exists (Ellis, Oeppen & Brennan, 2021). Therefore, the assessment procedures and methods for online assessments require proper quality standards and guidelines.

Incorporating online assessment as part of the teaching and learning strategy requires careful consideration of whether it is formative or summative; synchronous (real-time) or asynchronous; proctored (invigilated) or unproctored; and whether it is low-stakes or high-stakes assessment. The assessment strategies may also differ within private and public education institutions. Moreover, consideration must be given to the appropriate online platform to ensure reliability, security, and technological sophistication to address concerns about implementation, infrastructure, accessibility, security, dishonesty, academic integrity, and quality.

In the South African school system, research on Business Education within the school context is limited (America & Skelly, 2021). Business Education encompasses subjects like Business Studies, Economics, and Accounting for the Further Education and Training (FET) phase (grades 10-12).The teaching, learning, and assessment of these subjects culminate at the end of grade 12 as the exit level of schooling, which enables learners to either enter a higher education institution or participate in the formal or informal economic sectors.Nationally, learners take exit-level examinations that are high-stakes, proctored (invigilated), sit-down summative assessments. These examinations adhere to the learning outcomes stipulated in the respective Curriculum Assessment and Policy Statements (CAPS) frameworks, under the auspices of the Department of Basic Education, and are quality assured by Umalusi, the Council for Quality Assurance in General and Further Education and Training.There is immense responsibility on the stakeholders within the South African school education system for grade 12 learners to perform according to established performance indicators.

This article focuses on high-stakes, summative, and proctored online assessment within the school sector. The research questions are:

- What are the quality assurance indicators for online assessment in (business) education?
- What are the challenges education institutions face with online assessments?

The aim of this article is to establish a quality assurance framework for online assessments in Business Education within the FET phase. This framework could ensure transparency and consistency for proctored online assessments. In South Africa, the quality of online assessments in the school sector remains a significant concern, partly due to the lack of consensus on the criteria for establishing such quality.

1.1 Literature review

Assessment provides observable evidence of learning, understanding of the curriculum, and student progress (Joshi et al., 2020). There are inconclusive results in studies about the effects

of un-proctored versus proctored online assessments (Domínguez et al., 2019) and a wider range of assessment results therein (Hollister & Berenson, 2009). Others find no evidence that the absence of invigilators affects assessment performance (Lievens & Burke, 2011), provided that the assessment task is properly designed and the arrangements are effectively made (Lin et al., 2023). However, during and after Covid-19, the implementation of assessment presented a new focus on e-assessment, also referred to as online assessment. Online assessment presents different options, such as proctored or un-proctored, formative or summative, and low-stakes or high-stakes online assessments. Given the South African socio-economic inequalities and digital divide within the education system, technological advancement with regard to surveillance and efficacy should not disadvantage the poor (Meeran & Davids, 2022). These authors focused on Online Open Book Examinations within a university context and experienced, for the first time, the use of an invigilation application activated by scanning a QR code with a smartphone. They argue that to ensure fairness in assessment (no digital exclusion), students should be exposed to these technologies prior to the examination.

The use of online assessment has largely been for formative purposes, while being restricted to digital portfolios when it comes to summative assessment (Lin et al., 2023). It is important that there should be flexibility in terms of how and when assessments are administered and whether students have internet access (un-proctored assessments), the institution's infrastructure, and a stable learning management system (Lin et al., 2023). Overall, online assessment requires pedagogical and practical considerations in the attainment of learning outcomes.

Online assessment is dependent on technology, which has infrastructure and cost implications. These can vary in the case of proctored online assessments versus un-proctored. The cost will depend on the assessment system software licence, servers, a large number of computers, well-trained support staff, and large spaces (Sim, Holifield & Brown, 2004). In addition, good licensed anti-virus and anti-hacking software should be implemented. In high-stakes summative assessments, online cheating, plagiarism, and identity fraud are real concerns. Anti-plagiarism software such as Turnitin could be useful in countering academic dishonesty. Facial or eye authentication could be the way forward to ensure the identity of the student can be affirmed. Students with special needs and physical disabilities should also be considered in online assessments.

Joshi et al. (2020) identify a variety of pedagogically appropriate guidelines for e-assessment which include authenticity, validity, reliability, and that it should be conducted by a trained assessor. The latter is an important impact factor, especially for high-risk summative assessments. Moreover, online assessments should be entrenched in a quality assurance framework to ensure that the assessment is of high quality, reliable, valid, and fair. In the case of unproctored online assessments, there are concerns about potential issues with learning quality, such as plagiarism and grade inflation. Joshi et al. (2020) are of the view that the biggest hurdle is to conduct summative online assessments.

Although various studies have been conducted during and post-COVID-19 across higher education and schooling about the impact of online teaching, learning, and assessment (Mahlaba & Sekano, 2023), the focus on Business Education appears to be sparse. Regarding online assessment specifically, there has been increasing uptake, albeit mostly within the formative assessment domain, in many fields of study over the past decade (Huber et al., 2024) in higher education, but to a lesser extent in the school environment and more specifically about summative assessments.

1.2 Theoretical framing

Our research is framed within Biggs' extended P-model called Policy-Presage-Process-Product, which is an interactive framework in which individuals, organisations, and contextual experiences interact to support the learning process (Biggs, 1993; Allison, 2021). Policy suggests that, due to the context of the country, educational systems and cultures vary, and a political dimension is common to educational systems (Allison, 2021). These structures may include statutory bodies; for example, within the South African context, Umalusi and the Department of Education.

Presage refers to the experiences of stakeholders, such as schools, teachers, and learners. These experiences can encompass perceptions, expertise, professional and academic skills, values, beliefs, the enacted curriculum, and the perceived degree of institutional support for teachers' initiatives (Kanashiro et al., 2020). The third element is the Process factor, which refers to how students approach learning (including assessment) based on the teachers' Presage factors. Learning can be deep or surface, with the latter referring to minimal effort to meet the learning outcomes. Deep learning involves engagement with the subject through maximum meaning, understanding, connections, and relationships between topics, as well as the development of creative thinking and analytical skills (Kanashiro et al., 2020). In this instance, online assessment requires a deep understanding of its risks, maximum output, and contextual factors. The final factor of this model is Product, which implies the attainment of the envisaged learning outcomes. Ideally, learning outcomes should enable a learner to describe, understand, explain, and reflect on the subject.

Education systems and practices vary across countries. Central to these systems is a political dimension that influences a country's context and educational practices, and this should not be overlooked. Consequently, the challenges educational institutions face are embedded in the context of their country. For this reason, we propose the addition of a fourth P for Policy, as suggested by Allison (2021). Thus, Biggs' 3P Model has been adapted in the context of online assessments with this additional factor, called Policy. See Figure 1 below:

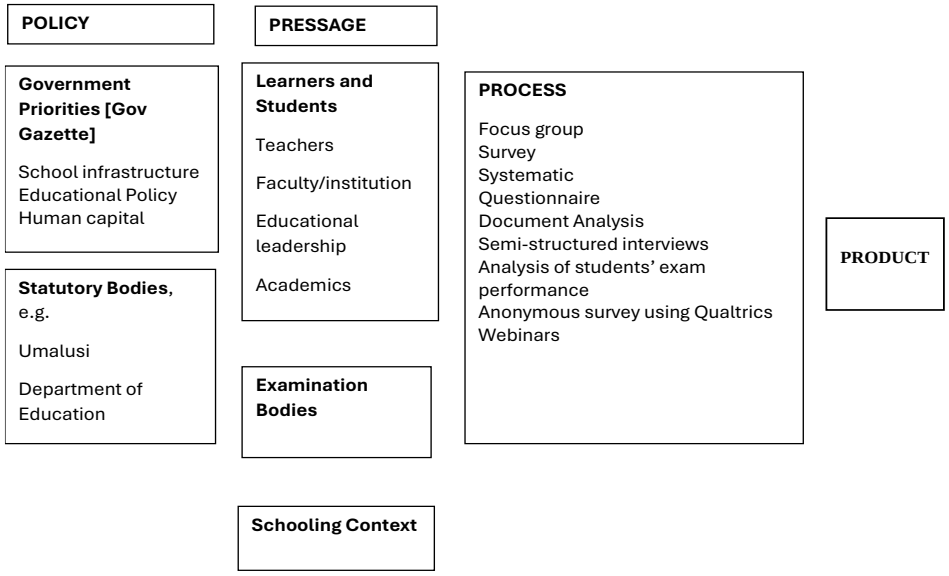

Figure 1: *4P Model [adapted from Biggs et al. (1993) and Allison (2021)]*

2. Methodology

This research is a preliminary inquiry using a meta-study methodology. A meta-study is employed to interpret and systematically review primary research, revealing the similarities and differences across a range of studies. It differs from a traditional literature review in that it is conducted in a methodical (or systematic) and unbiased manner, according to a pre-specified protocol. Of specific interest in this case is the scope of peer-reviewed research publications on online summative assessment between 2018 and 2023, using the following keywords: quality assurance, online assessments, e-assessments, online assessments in business education. These four themes broadly cover the key aspects identified in the literature review on the challenges in online assessment within the South African context. The timeframe represents two years prior and three years during and after COVID-19.

The analysis process of this meta-study starts with the identification of studies that comply with the pre-specified protocol by using Google Scholar as the search engine, followed by the (re)interpretation according to the four themes identified, after which the data are appraised and key findings are summarised. Booth (2006) is of the view that the results of such a systematic review could lead to the development of new knowledge, a synthesis or interpretative conversion of the new knowledge.

We reviewed the protocols employed by Dempster (2003), Khan et al. (2003) and Moher et al. (2009). In using the keywords 'online assessment', we found that most of these articles focused on the use of software programs for online assessments such as Mooc, Kahoot and Moodle, which were then excluded in the final stage. We consulted one additional document, such as

TESLA, and used the BIGGS model as a lens to develop a quality assurance framework for summative, proctored, online assessments.

The sample was limited to articles in peer-reviewed journals that focus on quality assuring online assessment, in particular summative assessments, and the initial sample included 55 articles. Articles were included or excluded based on three criteria:

- The article is a peer-reviewed academic article.
- The article is concerned with quality-assuring online assessments.
- The article presents an explicit detail regarding quality assurance indicators for online assessments.

The inclusion/exclusion criteria were addressed in three subsequent rounds of review: the first round involved a title/abstract review by the first author; the second round consisted of a title/abstract review by the second author; and the third round included a full-text review by both authors. Initially, we discarded articles that did not directly address our research questions or meet the inclusion criteria stated above. Next, we coded each of the articles based on categories under Biggs' 3P model using the ATLAS.ti software programme. Finally, we summarised the main findings of each article as they relate to the research question on quality indicators that inform summative online assessments, utilising Biggs' model.

We then organised the findings according to the presage–process–product categories described in Biggs' 3P model, aiming to synthesise commonalities between studies or highlight areas of inconclusive results. The final sample included 20 articles, as seen in the table below.

Table 1: *Research Articles Included [2018 TO 2023]*

N0	Article Title	Journals	Authors	Years
P1	Towards a framework for designing and evaluating online assessments in business education	Journal homepage: www.tandfonline.com /journals/caeh20	Elaine Huber, Lynne Harris, Sue Wright, Amanda White, Corina Raduescu, Sandris Zeivots, Andrew Cram & Andrew Brodzeli	2023
P2	Online Assessment: Concept and Applications	Journal of Research in Medical Education & Ethics	Anuradha Joshi1 , Amrit Virk, Shaista Saiyad, Rajiv Mahajan and Tejinder Singh.	2020
P3	Online Assessment in the Era of Digital Natives in Higher Education Institutions	International Journal of Technology in Education	Placidius Ndibalema	2021
P4	Guidelines for Online Assessment in Emergency Remote Teaching during the COVID-19 Pandemic	Education in Medical Journal	Ahmad Fuad Abdul Rahim	2020

P5	EFL Teachers' Online Assessment Practices During the COVID-19 Pandemic: Changes and Mediating Factors	Asia-Pacific Edu Res	Cong Zhang, Xun Yan, Junju Wang	2021
P6	Is Online Assessment in Higher Education Institutions during COVID-19 Pandemic Reliable?	Siriraj Medical Journal	Nik Ani Afiqah Tuah, Lin Naing.	2021
P7	Students' Perspective on Online Assessment during the COVID-19 Pandemic in Higher Education Institutions	An International Journal	Najeh Rajeh Alsalhi, Abdallah Darweesh Qusef, Sami Sulieman Al-Qatawneh and Mohd. Elmagzoub Eltahir	2022
P8	Virtual exams: has COVID-19 provided the impetus to change assessment methods in medicine?	Bone Jt Open	M. Pettit, S. Shukla, J. Zhang, K. H. Sunil Kumar, and V. Khanduja	2021
P9	Academic integrity of university students during emergency remote online assessment: An exploration of student voices	Transformation in higher education	Anne H. Verhoef, and Yolandi M. Coetser.	2021
P10	Students' Experiences of Fairness in Online Assessment: A Phenomenological Study in a Higher Education Institution Context	SAGE Open	Mohd Elmagzoub Eltahir, Nagaletchimee Annamalai, Arulselvi Uthayakumaran, Samer H Zyoud1, Antonia Ramı´rez Garcı´a, Viktorija Mazˇeikiene, Bilal Zakarneh and Najeh Rajeh Al Salhi.	2023
P11	Students' acceptance and perceptions of online assessments post-COVID-19 pandemic: A case of Community Extension students at a historically disadvantaged institution	Perspectives in Education	Ntombenhle Ndlovu, Phiwayinkosi R. Gumede, and Sandile Mthimkhulu.	2023
P12	Academic Dishonesty in Online Accounting Assessments—Evidence on the Use of Academic Resource Sites	Issues in Accounting Education	Jenelle K. Conaway and Taylor Wiesen	2023

P13	High-stakes online assessments: A case study of National Benchmark Tests during COVID-19	Perspectives in Education	Ms Tatiana Sango, Robert Prince, Sanet Steyn, and Precious Mudavanhu	2022
P14	Secondary school teachers' use of online formative assessment during COVID-19 lockdown: Experiences and lessons learned	Journal of Computer-Assisted Learning	Maria Joanna Veugen, Judith Theresia Maria Gulikers, and Perry den Brok.	2022
P15	Minimise Online Cheating for Online Assessments During COVID-19 Pandemic	Journal of Chemical Education	Joseph G. Nguyen, Kristopher J. Keuseman and Jonathan J. Humston	2020
P16	Quality Assurance Framework for K-12 Online Learning	Saskatchewan	Guideline	2023
P17	Considerations and strategies for effective online assessment with a focus on the biomedical sciences	Perspective	Karen Mate, and Judith Weidenhofer	2021
P18	Online Assessment in Higher Education: A Systematic Review	Online Learning	Joana Heil,	2023
P19	Rethinking online assessment from university students' perspective in the COVID-19 pandemic	Cogent Education	Vivian Wing Yan Lee, Paul Lai Chuen Lam, Judy Tsiu Sim Lo, Jesse Lai Fong Lee, and Joyce Tik Sze Li.	2022
P20	Emerging trends of online assessment systems in the emergency remote teaching period	Smart Learning Environments	Arif Cem Topuz1 , Eda Saka, Ömer Faruk Fatsa, and Engin Kurşun.	2022

3. Discussion of Findings

As previously mentioned, 20 articles were included in the analysis, of which 11 were empirical and 9 were theoretical papers. Among the empirical studies, 9 applied qualitative research methods, 5 used quantitative methods, and 2 employed a combined approach. Four of the articles provided a review of quality assurance in an educational setting. Our search did not yield any articles specific to Business Education that relate to online assessment, summative assessment, or quality assurance.

The studies were also categorised according to geographical spread. One study represented Tanzania (n = 1) and Malaysia (n = 3). There were four studies conducted in China, two each in the UK, USA, and South Africa, and one each in Germany, India, the United Arab Emirates,

the Netherlands, and Turkey. This indicates a strong representation of the Global North in the literature on online assessments.

From the thematic analysis, several overarching themes were identified that informed the quality indicators of online assessment for teaching and learning, as well as the development of a proposed quality assurance framework. The analysis relied on the empirical studies conducted and systematic reviews of online assessments. To develop the quality assurance framework, we focused mainly on the challenges faced by students, teachers, and institutions related to online assessments.

3.1 Presage

The first element of Bigg's 3P model is the Presage factors, which represent teachers, students, faculty/institutions, and experiences related to online assessments. Teachers' Presage factors include ensuring equity of access for students and facing challenges such as academic dishonesty, limited exposure to technological innovation, exam security, and academic integrity. Students' Presage factors encompass their experiences with unreliable internet access, a lack of provisions and support to alleviate the anxiety of online assessments, limited accessibility to personal devices, the incorporation of technology in teaching, low acceptance and readiness for new technology, and academic dishonesty. Meanwhile, faculty/institution Presage factors primarily concern infrastructure issues, such as a lack of awareness of ICT policies, costs related to hacking and viruses, system failures and compatibility, procedural justice related to student unfairness, and the alignment of assessment culture with discipline and stated learning objectives.

3.2 Process

The second element, Process, includes the research instruments required for achieving the purpose of establishing the challenges facing online assessments and the quality indicators needed for quality assurance. The themes are identified as steps in the process of collecting information for the purpose of achieving a desired outcome. See the table below for an overview of the instruments used:

Table 2: *Categorization of instruments and the number of articles per instrument*

Instruments	**n**
Focus group	1
Survey	2
Systematic review	6
Analysis of institutional	1
Questionnaire	5
Document Analysis	5
Semi-structured interviews	4
Scoping review	1
Analysis of students' exam performance	2
Anonymous survey using Qualtrics	1

Webinars	1

3.3 Product

Finally, the Product is the outcome that is a direct result of the challenges teachers and students face, such as academic integrity, ensuring equity of access for students, and academic dishonesty (Huber, Harris, Wright, White, Zeivots, Cram & Brodzeli, 2023). An example of academic dishonesty is purported by Conaway and Wiesen (2023), who found that accounting students make use of Chegg, which is an online question-and-answer student service.

The major reasons for dishonesty include the availability of content online, students feeling overwhelmed and stressed, pandemic-related issues, lack of monitoring, lack of time management, academic inexperience, struggles with technology, recycling of lecture questions, and allowing too much time for assessment (Verhoef & Coetser, 2021). These researchers propose that to prevent online cheating, academics should ask different questions and have proctored assessments (remote invigilation). To address academic dishonesty, there should be an increase in assessment frequency for online formative assessments to reduce the risk that could lead to greater learning gains (Nguyen, Keuseman & Humston, 2020).

Institutions are facing challenges such as the prevention of viruses and the cost to avoid hacking (Joshi, Virk, Saiyad, Mahajan & Singh, 2020). Pettit, Shukla, Zhang, Kumar, and Handuja (2021) found similar challenges related to online assessments, such as exam security (cheating, dishonesty), authentication (confirmation of candidates' identity), maintaining exam integrity, poor candidate internet access, systems failure and compatibility, cybersecurity threats, impersonation, and cheating detection.

In Ndibalema (2021), students experience unreliable internet access and display negative attitudes toward online assessments. Factors that exacerbate students' negative attitudes include their limited accessibility to personal devices and limited exposure to technological innovation, which results in low acceptance and readiness for new technology. This researcher also highlighted inadequate organisational support, such as limited orientation on basic skills in e-learning and lack of awareness of ICT policies. In terms of pedagogy, there is a lack of basic skills for online assessments, and it was found that few academics integrate technology into their teaching. On another note, the concept of 'procedural justice' was emphasised, as students felt they were being treated unfairly because of limited time, technical problems, and unclear expectations of assessment (Eltahir, Annamalai, Uthayakumaran, Zyoud, Garcıa, Mazeikiene, Zakarneh & Al Salhi, 2023). To overcome these challenges, it is recommended that institutions plan and implement changes, such as an increase in the percentage of formative assessments and a decrease in the percentage of summative assessments (Zhang Yan Wan, 2021). A similar recommendation is echoed by Veugen, Gulikers, and den Brok (2022) that institutions should lean more towards formative online assessments due to reliability and validity issues.

Tuah and Naing (2021) further propose that the following considerations for online assessments related to readiness, student diversity, and cheating practices should be taken into account:

- Internet unavailability
- Cost for paper and other logistics
- Internet instability
- Slow feedback
- Unable to afford internet Faculty perspectives:
- Cost of internet/wifi
- More time for grading
- More time for checking plagiarism
- Require training
- Logistics for invigilation
- Require motivation
- Require an online platform
- Require technical support

To conclude, the success factors of online assessment should include that assessment criteria need to be made transparent, as well as students' perspectives on the perceived ease of use and perceived usefulness of online assessments (Heil and Ifenthaler, 2023).

3.4 Policy

We included policy because of the context of a country's educational systems and cultures that vary, commonly by political structures, and common to educational systems is a political dimension (Allison, 2021). As such, when establishing the challenges related to online assessments and quality indicators through the lens of Biggs' 3P, the inclusion of a country's context and culture should not be overlooked (Zhang, Yan & Wan, 2021).

There are two policy factors, namely government priorities and regulatory bodies. Government priorities are linked to what a country's focus is regarding their society and place an emphasis on the role society plays in education. For example, is the focus of education addressing scarce skills in society? Regulatory bodies, on the other hand, are influenced by government and established to manage and monitor educational performance and standards. These regulatory bodies also influence the traditional elements that exist within the 3P model. That said, education examination bodies must comply with a myriad of government regulations, resulting in similar operations despite their legal independence (Zhang, Yan & Wan, 2021).

3.5 Quality Assurance framework

We present our preliminary quality assurance framework for high-stakes summative proctored assessments. This framework is centred around the 4 P's (policy, purpose, people, and process) and provides a platform for reflecting on the alignment (or lack thereof) of these four elements

in any quality assurance configuration. This means that, depending on the goals of an organisation, processes can be identified that position people in ways that may contribute to educational quality. Consequently, the framework offers a perspective on quality assurance that has the potential to explain why quality assurance in an organisation is functional or non-functional. Below is an illustration of the proposed quality assurance framework:

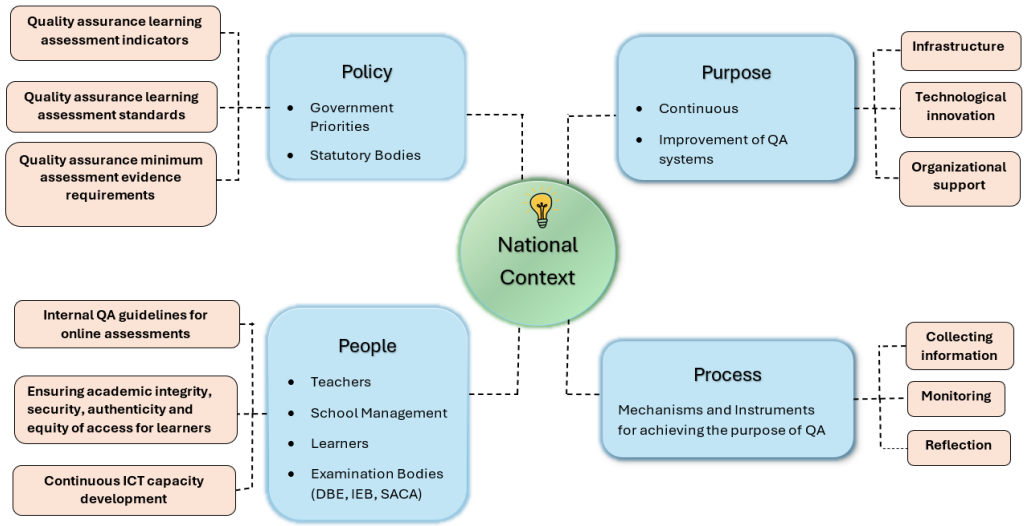

Figure 2: *Quality assurance framework*

First, attention must be given to a policy that addresses the quality assurance of learning assessment indicators and standards, along with the minimum evidence required for quality assurance. Second, once the policy has been approved, stakeholders (including examination bodies, teachers, and management) need to develop internal guidelines for online assessments. These guidelines should ensure academic integrity, cyber security, authenticity, and equitable access for learners, while also considering the continuous ICT capacity development of all stakeholders within the organisation. Third, the focus should be on the continuous improvement of quality assurance systems, such as infrastructure, technological innovation, and organisational support. Finally, the process encompasses the mechanisms and instruments required to achieve the aims of quality assurance. Here, the collection of information, monitoring, and reflection on the operational aspects of quality assurance are crucial.

4. Conclusion

Based on the preliminary meta-study on online assessment, Figure 2 illustrates that the national context of South Africa is the cornerstone upon which all decisions regarding online assessments in basic education should be based. Even if online assessment is not yet a national imperative, the changing times and technological advancements in almost all spheres of life make it a force to be reckoned with. Moreover, the proliferation of private educational institutions with the technological resources and trained human capacity to implement large-scale assessments could

place additional pressure on educational policymakers.The Policy dimension in Figure 2 represents specific regulatory or statutory bodies responsible for ensuring that quality assurance learning requirements, standards, and indicators are aligned with the national government's priorities for online assessment in basic education.

The people (examination bodies, teachers, learners, and school management teams) are integral to the successful implementation of online assessment. The internal quality assurance guidelines governing the technological systems, as well as issues regarding authenticity, security, academic integrity, and access, are important. Continuous training and development of staff are crucial.

The processes applied to ensure the quality of online assessments involve the continuous collection of information and monitoring of the strengths and weaknesses of the process. Regular reflection and diagnostic analysis of each online summative assessment will ensure that challenges are circumvented and improvements for future assessments are envisaged.

The ultimate outcome or purpose of an efficient quality assurance system is the continuous improvement and development of quality assurance systems.Sophisticated technological infrastructure and continuous innovation should be in place, including high-level expertise in cybersecurity. This aspect of the quality assurance system cannot be achieved without skilled technical and IT staff, particularly for high-stakes, proctored summative online assessments.

We are cognisant of the limitations of this research. As stated, it is a preliminary study in which only one search engine was used. Moving forward, our aim is to include additional search engines and databases to ensure that the bulk of the publications on the topic are included. We could also extend our keywords to 'teaching and assessment' and 'learning and assessment', as assessment might be a sub-topic of teaching and learning research in general. As established in the proposed framework of this research, the future direction for quality assurance in assessment encompasses a broader approach to teaching and learning in basic education.

5. Declarations

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Conflicts of Interest: The authors declare no conflict of interest.

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