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Thinking 'out of the box' When Designing Formative Assessment Activities for the E-Portfolio

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ABSTRACT
E-Portfolios of on-line scholars are integral to instructional planning and the design of authentic, engaging, and active tutoring for periodic self/peer-and-instructor formative assessments. In addition, the formative assessment in open distance and e-learning (ODeL) is meant to provide and facilitate contact, support, and structure to the learning experiences of students who are often unfamiliar and alienated by the distance learning experience. Previous research has focused on formative assessment strategies, results, and feedback in distance learning, but little has been studied on how to design suitable formative assessment activities in this format. This article, therefore, presents findings of how lecturers can the design a formative assessment for e-portfolio activities for online learning. Ten lecturer participants were purposively sampled from three colleges within the ODeL university. These semi-structured interviews, together with an e-portfolio checklist formed the basis for the interpretative analysis of how formative assessment activities are designed for the e-portfolios. The lecturers are guided by the student's learning outcomes and use sequential activities for students to do via the e-portfolio. This, therefore, involves the lecturer's consideration of graded and non-graded formative assessment activities of individual and group work e-portfolios to provide evidence and make judgments about each student's progress. This study's findings emphasize the importance of designing formative assessment activities to help students learn the content and develop their understanding which further deepens their knowledge and acquisition of the module outcomes. The research shows that the benefits of optimal student engagement, performance, and learning are the result of the creative design of formative assessment activities.

KEYWORDS
Assessment; e-assessment; formative assessment; learning outcomes; e-portfolios.

INTRODUCTION

The principle of assessment is to record student achievement; however, formative assessment methods can greatly assist lecturers in enhancing students' learning. The *Assessment Policy* approved in 2005 by the Council of the University of South Africa (revised in 2013, 2015, and 2018) aims to ensure that assessment is integrated within the learning experience and that assessment is typically used as a constructive, engaging, and transformative experience for the students. The content and assessment activities, therefore, determine the final grade for students in an online institution. This is measured by the structure (or the degree to which curricular materials and assessments are strictly regulated and sequenced); and by dialogue (or the degree to which lecturer and student engage in constructive interaction to build the student's knowledge) (Jaggars & Xu, 2016).

This article argues that formative assessment activities are pivotal and therefore must be well designed to help students learn the content and develop understanding to deepen their knowledge and achieve the module outcomes. It follows then, that the organization of assessment activities to provide consistent feedback to students is critical for the support of student learning (Torre et al., 2020). A meta-analysis of previous formative assessment research shows that the focus has been based mainly on formative assessment strategies, results, and feedback but little has been studied on how to design formative assessment activities. What needs to be emphasised are the sequential activities that are formative in nature and designed for learning to inform the lecturer and students of the zone of proximal development learning. Hosseini and Kerremans (2019) argue that lecturers, who are responsible for mentoring and supporting students through the Zone of Proximal Development (ZPD) for formative assessment, can present projects through a digital platform that highlight their students' major accomplishments (Kakama et al., 2017).

Formative assessment for learning implies that the goal is to teach the content and assist students in learning the content. The findings of the study by Houdyshell and Ziegler (2021) suggest that students require help and support with learning skills in higher education. In previous studies, the formative assessment focus is designed for feedback. However, one lecturer in an ODeL university in South Africa has observed that while lecturers tend to focus on the number of formative assessment activities, results, and feedback, there has been little studied on how to design formative assessment activities for the e-portfolio. As a result, in many higher education institutions, e-Portfolios have been introduced as an alternative form of assessment, primarily for summative assessment. Therefore, the focus of students has become increasingly concerned about the specific outcomes of each formative assessment activity. However, there is a need for a more explicit focus on the pedagogical strategies that can create effective learning environments, particularly strategies that can assist students to become independent in taking responsibility for their learning. Butler -Adam (2018 cited by Nwosu et al., 2023) alluded that electronic learning can be jeopardized by the lack of technological tools designed for learning.

This research, therefore, examined how lecturers at an ODeL university design formative assessment activity for e-portfolios. The analyses concentrates on the design, structure, and guidelines, as well as the application of formative assessment activities. Thus, the research question for this article is:

How do the ODeL lecturers design formative assessment activities for the e-portfolio?

Contextualization of the study

In a larger study conducted on how e-portfolios are used for formative assessment to enhance efficacy in ODeL, the findings suggested that lecturers designed sequential formative assessment activities to enhance learning in ODeL. The ODeL university that formed part of this research follows an assessment strategy that refers to the overall assessment strategy in the curriculum and materials development stage of module development, which includes the module assessment criteria, as well as formative and summative assessment, and moderation in each module (UNISA, 2019). In other words, lecturers are expected to implement the assessment policy of the university and the module form when designing formative assessment activities. Each formative assessment activity must specify the specific outcomes and assessment criteria that will be used to determine how the lecturer defines the achievement of the learning outcomes. One important quality aspect is to align the learning outcomes of the module with formative assessment which should reflect the National Quality Framework level descriptors (UNISA, 2019).

THEORETICAL FRAMEWORK

The theoretical framework reflects how the researcher to applies a given theory to the study (Varpio et al., 2020). For this study, the researcher used constructivist perspectives to reflect how lecturers design formative assessment activities for the e-portfolio. The notion followed is that, "Constructivism design is a perfect match with 'Learning by doing' or 'Hands on' classroom activities from the perspective of active learners" (Orak & Al-khresheh, 2021, p.169). Muhajirah (2020) asserts that constructivism can be done by giving students some problems to solve and further argued that constructivism places a greater emphasis on the learning process and skills rather than achieving learning outcomes. However, to achieve learning goals, the lecturer must create collaborative learning, which allows for discussion of a problem from various perspectives. Knapp (2019) conceptualized that small group discussion activities are the perfect form of social constructivism to introduce topics and provide opportunities for subsequent scaffolded discussion and reflection as well as self-reporting.

LITERATURE REVIEW

"It is the systematic evaluation of a student's ability to demonstrate the achievement of the stated learning goals or outcomes in the curriculum in a module or program" (University Press, 2019, P. 2). The lecturer must be clear about the purpose of assessment and decide if it is for formative assessment, summative assessment, or competency. Therefore, as the first objective

of the process of e-Portfolio is to focus on the student's learning, all assessment activities should facilitate the student learning process in an online space. The e-Portfolio methodology is a student-centred approach that encourages better use of assessment for learning, because students can use it for collaboration and communication with their instructors and peers (Hinojosa-Pareja et al., 2021). The lecturer should create formative assessment activities that enhance student support and learning. On the other hand, the focus of formative assessment is on student learning outcomes (Ahmedi, 2019; Bloom, 1969 cited by Nishizuka, 2020: 15). In this, the e-Portfolio process allows assessment activities that can be done individually and in groups based on problem-solving and the content. Lecturers can also infuse the e-Portfolio with practical group work activities, graded discussion forums, and non-graded forums for knowledge sharing. The discussion forums are a formative assessment strategy that can assist cognitive and effective learner engagement (Brown, 2019), because students are tasked with reading the sources and then discussing them with peers. Productive discussion and online social interaction, therefore, are dependent on prior reading and experiences of the students which allows for greater ease in dialogue, content discussion, and knowledge-sharing as students collaborate to solve problems (Mahlomaholo & Mahlomaholo, 2022; Ningsih et al., 2021; Sibanda & Marongwe, 2022; Tryon & Bishop, 2009). This process can better generate more information for a better understanding of the module.

Previously, distance education involved hard copy resources, books, and assignments. Now, however, many universities have moved to an online environment, known as Open Distance and e-Learning (ODeL), where study is mediated through a wide range of current and emerging digital technologies and resources. ODeL, therefore, remains a different system of learning due to a physical distance between the student and the university (University Press, 2018) using largely formative tools employed to assist students in summative assessment tasks (Kerr et al., 2016, p.72). Online teaching and learning has now necessitated online assessment to address the practice of online teaching (Dogan et al.,2 020) which involves the following skills:

- deciding how and when the assessment will take place (choosing the tools and platforms);
- paying exceptional attention to the purpose of the assessment and/or assessment plan, and the basic principles of assessment;
- assessing student knowledge about the software being used; and
- developing the student's skills to make it of use.

Dogan et al., (2020) have also argued that e-assessment should be divided into four categories such as evaluation of products, automated skills, online discussion, and publishing. Social interaction in an online environment is also very important as it enables greater ease of dialogue and content discussion, as well as knowledge sharing since students work collaboratively to solve problems (Tryon & Bishop, 2009).

Formative assessment has been defined as a learning assessment because of its ability to form judgments about students' progress that influence the subsequent flow of instruction

(Spector et al., 2016). This is particularly true in the ODeL environment, where the development of alternative, yet appropriate, formative assessment procedures is needed. Winstone and Carless (2019) have asserted that different types of formative assessment can be used to assess students before, during, and after the lesson to gather knowledge on the student's learning progress and provide the lecturer with a clear picture of student's understanding of the content. Formative assessment throughout the learning period is designed for students to ensure that they are active, motivated, and receive feedback on their achievement of the immediate learning goals and outcomes (University Press, 2019). An alignment with the ODeL policy by using a Framework for Team Approach equates to the model strategy of the university (University Press, 2018). The formative assessment of ODeL is also used to provide contact support and structure to students who are unfamiliar with and alienated by the distance learning experience as they help students to stay in touch with their lecturers during their studies (Rehman et al., 2021). In addition, the formative assessment of ODeL allows the institutions and their instructors to offer different forms of assessment. Heidon and Arnold (2021) have suggested that it is important to review state-of-the-art online assessment as it has a bearing on the approach, course materials design, and e-assessment concepts, as well as the accreditation processes.

Another function for which the lecturer can also design formative assessment activities is for the purpose of improving the presentation of verbal and non-verbal skills. Verbal presentation as an activity allows students to orally present their knowledge and understanding of the content. This encourages engagement between students and their lecturers via a powerpoint presentation which helps students fine-tune their speaking skills by providing feedback to one another in an interactive way to exchange of ideas, and make a self-assessment (Zafiropoulou & Darra, 2019).

Students are expected to play a central role as active participants in their learning. In this regard, formative assessment facilitates active learning, provides flexibility, focuses predominantly on learning rather than on grading, because it encourages feedback that informs further learning (Prashanti & Ramnarayan, 2019). Winstone and Carless (2019) have asserted that various forms of formative assessment can be used before, during, and after the lesson to gather knowledge on student progress to provide the lecturer with a clear picture of student understanding of the content. However, this depends on the types of question and questioning style because closed-ended questions do not improve critical thinking skills. Open-ended questions, however, use problem-solving skills and case studies which involve problem-based and inquiry-based learning, and develop interpretation and reasoning skills.

The effectiveness of an online formative assessment tool, therefore, is determined by its ability to promote equitable education, foster engagement with critical learning processes, and provide informative and immediate feedback (Gikandi et al. 2011). Formative assessment is more about how students could respond to feedback and assistance (Torre, Schuwirth, & Van der Vleuten, 2020) and feedback is designed to facilitate support and assistance in learning.

As such, the e-Portfolio is a productive tool that enables users to gradually assess, continuously give feedback, point out weaknesses that need to be developed, and constantly observe the efficacy of tuition (Akhuledian et al., 2020; Mokone & Setlalentoa, 2023). It is, therefore, a holistic approach to recording achievements while assessing students formatively or in line with professional standards (Spector et al., 2016) "An e-Portfolio is both an organized way of collecting personal data and a holistic learning process where the learner can follow a structured path for selecting, creating, evaluating and reflecting upon achievement and skills for academic, professional and social purpose" (Alexion & Paraskeva, 2020, p.122). For Sanchez et al. (2019) formative assessment activities of the e-portfolio present evidence of learning and achievement.

Barrett (2010:6) has defined the e-Portfolio as "an electronic collection of evidence that shows your learning journey over time to document student learning by providing evidence of their knowledge, competencies, and skills". This constructive alignment is a principle devised for teaching and learning activities and assessment tasks to address learning outcomes. Thus the e-Portfolio is a pedagogical tool that supports project-based and inquiry learning, engaging students through peer collaboration (Song, 2021). For Olstad (2020) the e-Portfolio focuses on learning outcomes by aligning learning activities, assessment tasks, and criteria with learning outcomes Bouzeghala (2020) has classified the e-Portfolio as a purposeful framework and a learning method in which the concepts are elaborated and designed to reflect on its users' achievements. The e-Portfolio is, therefore, considered a formative assessment tool because it is believed to be more effective than a standardized assessment test (Syzdykova et al., 2021) as it focuses on the judgment of the quality of the student's work by emphasizing levels of success.

The e-Portfolio alsoassists instructors in instructional planning and designing authentic assignments, using engaging and active pedagogies, and periodic self-and peer-and-teacher formative assessments (Aghazadeh & Soleimani, 2020). Lecturers need to design the module content that will ensure student learning and co-construction of knowledge. The e-Portfolio puts students at the centre of building knowledge by facilitating access to knowledge since the lecturer must consider the context of the students doing the module through the e-portfolio to ensure better use and learning. It involves students in deep learning while serving as a meaningful way for students to engage in formative assessment.

Other advantages of the e-Portfolio is that it can be infused with blogs, social media, and Google Meet for knowledge sharing, peer learning, and review. These processes facilitates peer feedback, and an online community of practise because knowledge is located with the users and students are capable of clarifying module content for better understanding and application. e-Portfolio-based assessment is relevant to develop students' self-regulated learning since it focuses on student-centred learning (Rabbani Yekta. & Kana'ni, 2020).

For Sui et al. (2019) other benefits of formative assessment activities of the e-portfolio that may enhance students' soft skills for a more effective learning process lies in. students opportunities to harness their soft skills individually and collaboratively. Students can collate evidence of their

achievement in a way that is highly personal such as by creating journals, uploading files, embedding social media resources from the web, and collaborating with others (Cheng, 2020). The e-Portfolio approach, therefore, fosters autonomy in the learning tasks and promotes intrinsic motivation for learning (Beckers & Merrienboer, 2018). Taufik and Cahyono (2019) have also suggested that the e-Portfolio develops writing skills through self-assessment.

As part of the Curriculum, each topic for the module content has learning outcomes and assessment standards (criteria) linked to assessment activities. Therefore, every assessment activity should be guided by the assessment criteria to ensure that questions test for the skill, understanding, and attitude required by the module. "It is clear that the choice of assessment is critical, and properly aligning the assessment to the learning outcomes can produce a constructive learning practice" (Biggs & Tang, 2011, p.74). This also guides the content design and decision-making of concepts for each module that students must learn.

In the end, the learning outcomes describe what the student should know, do, and understand at the end of the lesson, topic, or module (van Wyk, 2017). Learning outcomes should be relevant to the module content and describe the results of the learning activity. The e-Portfolio is designed to fulfil the learning outcomes of the program (Ray, DuBrava, & Jacks, 2020) while considering the assessment criteria which are the indicators of how the achievement of learning outcomes is assessed or evaluated. Therefore, the lecturer must bear in mind that setting learning outcomes enables students to gradually acquire knowledge, skills, values, and attitudes of the module.

METHODOLOGY

When using the interpretivist paradigm, lecturers design formative assessment activities of the e-portfolio Antwi and Hamza (2015) have stressed the importance of analyzing the context to understand the world through the experiences of the participants since the aim is to interpret the realities that participants experience and produce meaning from the data gathered (Kivunja & Kuyini, 2017). This suggests that questions for the study should allow participants to narrate (open-ended questions) for their explanation and understanding of their experiences. In this study, lecturers use the e-Portfolio for formative assessment of their experiences that could be regarded as base knowledge for future decisions.

This qualitative study was conducted in one university in South Africa offering education through ODeL. To crystallise the purpose, the students' e-portfolios were evaluated with a checklist designed by the researcher using a semi-structured interview schedule with participants.

Ten lecturers were purposively selected and interviewed through a semi-structured interview schedule: eight from the College of Education, one from The College of Economics and Management Sciences, and one from the College of Agriculture and Environmental Sciences. The researcher conducted a pilot study to test the questions, then conducted interviews through Microsoft Teams which lasted approximately 45 minutes per each participant. The

process lasted four months due to the availability of the participants for online interviews. The researcher conducted the semi-structured interviews while the Microsoft Team App recorded the conversation and the researcher transcribed and analysed data. Thematic analysis was used to identify, analyze, organize, describe, and reported themes found within the data set guided by these six steps: familiarise with data, generate initial code, search for themes, review themes, define themes and produce the report (Creswell, 2016).

FINDINGS

The findings of this study are presented through themes to address research objectives based on the results of the e-Portfolio checklist and semi-structured interviews. The e-portfolio checklist was used to evaluate and study the portfolio of the students. Thematic analysis is an approach to identify and analyze patterns in qualitative data to examine experiences narratively based (Ngui, Hiew, & Pang, 2020). The themes present how lecturers designed and used the formative assessment activities of the e-portfolio.

Sequential activities guided by learning outcomes designed for students.

Participant A mentioned that there are tasks designed to formatively assess students which are sequential in the sense that the student must complete Task 1 before attempting Task 2, thus, compelling them to complete the tasks in order as uploaded on the e-Portfolio. The first activity tested the students' technological knowledge by asking them to furnish personal details, as confirmed by another participant in the following way: *"Tested technological skills of the students" (Participant B).* Content modules required students to do the reflection on every task completed, thus, forcing self-assessment and evaluation where they reflect on tasks, materials received, and feedback provided. This was explained as follows: "*The e-Portfolio enhances students' soft skills through reflection"* (Participant J).

According to the e-portfolio checklist, students' e-portfolios had informal and formal activities which were known as 'small chunks'. *Small chunks of activities are designed for learning, not for grading (E-P for ISC370).* Lecturers design and use them differently; for instance, small chunk activities are designed after receiving email from students requesting helps and after a formal assessment. *"The small chunk activities are informed by email inquiries, chat, and blog discussion"* (Participant I).

Students shared knowledge through discussions and presentations which resulted in learning from each other. *"Individual tasks were used for collecting learning and knowledge sharing"* (Participant G). Other tasks required the student to share electronic videos, pictures, and PowerPoint presentations.

According to the participants, learning outcomes dictated which formative assessment activities to use for the e-portfolio to facilitate learning online. *"The e-Portfolio activities are formative in nature, aligned and dictated by learning outcomes of the module"* (Participant C). Activities are linked to individual learning outcomes; the students are provided with a clear structure or format for writing the essay or completing the assignments. The assessment plan

and all activities were guided by the learning outcomes of the module, the content, and additional materials which assisted the students in completing the activities. *"Every activity and content are dictated by learning outcomes" (Participant C).* Additional material was given to students to enrich their knowledge and articles were accessed from Open Electronic Resources (OER), which scaffolded online discussions that aligned with each module content topic. *"The e-Portfolio facilitates a more classroom-based assessment but in an online platform"* (Participant H).

Individual and Group graded and non-graded formative assessment activities of the e-portfolio.

Individual tasks and group tasks were designed for learning and assessment. *It is a portfolio project that involves individual activities and group activities to be done via blogging, tagging for discussion"* (Participant H). There were activities for grading and non-grading. These activities encouraged interaction and collaborative learning through discussion activities. *"Students are also encouraged to initiate discussion through the blog" (Participant C).* Blogs and articles were uploaded for students to read to initiate discussion and knowledge sharing.

Self-assessment activities were designed for students for learning only but linked to learning outcomes. *"Self-assessment activities harness students' computer literacy skills using digital media"* (Participant A). They were planned by the lecturer to enhance learning and help students self-identify the gap in learning. *"Students reflect on what they have learned and not learned"* (Participant F). Informal activities and reflection exercises were designed for self-assessment but were not graded.

Evidence of learning to make judgments about students' learning.

Participant F alluded that an e-Portfolio is used for evidence that can be used to determine competency. Activities were designed to help students learn the content, develop their understanding, further and deepen their learning and achieve the module outcomes. "*The e-Portfolio is a learning method that allows students to showcase capabilities and learning differently from tests and examination"* (Participant J).

These activities which the students were expected to do via e-Portfolio, contribute to the year-end result or summative assessment. *"There are formative assessment activities designed to be done via e-Portfolio and contributed towards summative assessment for the result to each module"* (Participant E). This suggests that even though activities are formative, they contribute to the final mark of the student in each module.

Formative assessment activities of the e-portfolio for self-directed learning.

Students need to take responsibility for their learning through reading, research, doing activities, and initiating discussions. *"Self-regulated learning is the by-product of the e-Portfolio because there is no copy and paste, students take ownership of their learning, force them to work hard and they must find resources and information to complete activities"* (Participant D). Participant H reported that an e-Portfolio is used to train students in self-regulated learning through activities that involve collecting and presenting items from the e-Portfolio, making

sense of concrete experiences through reflection, and projecting their learning. This was confirmed by another participant but throw in another angle of autonomy and self-confidence. *"The e-Portfolio promotes students' autonomy and self-confidence"* (Participant J).

DISCUSSION

Sequential activities are step-by-step activities that students needed to complete on the e-Portfolio for learning and grading. The arrangement of assessment activities is key to supporting and creating learning with constant delivery of feedback to students (Torre et al., 2020). The procedure is for students to complete the first task, receive feedback, reflect, and revise before they move on to the next task. Reflection is graded to compel students to do it and encourage learning and evaluation. This ensured coherence to the learning module content and regulated students' learning by incorporating assignments, lesson plans, reflection, and developing a Wiki, essays, mind map, blog topics, and observations. Winstone and Carless (2019) have asserted that various forms of formative assessment can be used to assess students before, during, and after the lesson which assists in gathering knowledge on student learning and providing the lecturer with a clear picture of student understanding of the content.

The sequence of activities of the e-portfolio start with furnishing the personal information that harnesses the soft skills of the students. The objective is to familiarize the student with the system and online tools. Sui et al. (2019) support the notion of the-Portfolio as a useful and effective tool to enhance students' soft skills for an effective learning process. This task resulted in useful information for creating teams for further discussions outside the e-Portfolio (Facebook and WhatsApp groups). The benefits are that students collate evidence of their progressive achievement in a way that is highly personal; such as the creation of journals, uploading files, embedding social media resources from the web, and collaboration with others (Cheng, 2020).

Lecturers design formal and informal tasks given in small portions which are designed according to the learning outcomes of the module. The e-Portfolio is a formative assessment tool because it is believed to be more effective than a standardized assessment test (Syzdykova et al., 2021) as it focuses on the judgment of the quality of the student's work by emphasizing levels of success. "Constructivism design is a perfect match with 'Learning by doing' or 'Hands on' classroom activities from the perspective of active learners" (Orak & Al-khresheh, 2021:169). These small sections of activities are designed for learning rather than grading and inform the lecturer of each student's progress. The e-Portfolio also assist instructors in instructional planning and designing authentic assignments, by using engaging and active pedagogies, and periodic self-and peer-and-teacher formative assessments (Aghazadeh & Soleimani, 2020). The first task was to harness technological skills. Each task is allocated or aligned to a learning outcome. e-Portfolio focuses on learning outcomes by aligning learning activities, assessment tasks, and criteria with learning outcomes (Olstad, 2020).

Students were required to start discussions for knowledge sharing through blogs. Productive discussion and online social interaction depend on prior reading, and experiences of the students and enable greater ease in dialogue and content discussion, and knowledge sharing as students work collaboratively to solve problems (Tryon & Bishop, 2009). Instructors are responsible in the online space for mentoring students through the Zone of Proximal Development and supporting them. This process facilitated learning from each other through formative assessment activities called discussion and blog posts. In an online environment, social interaction is very important as it enables greater ease in dialogue and content discussion, and knowledge sharing as students work collaboratively to solve problems (Tryon & Bishop, 2009). Knowledge sharing was also facilitated by PowerPoint presentations, videos, and pictures to illustrate learning. PowerPoint presentation assists in fine-tuning the speaking skills of the student through oral presentations as they provide each other with feedback, offering a space for interaction, exchange of views, and self-assessment (Zafiropoulou et al., 2019).

Formative assessment activities aim to ensure that there is meaningful learning. To achieve that the lecturer must understand learning outcomes and how students will be assessed when choosing the activity for students. “It is clear that the choice of assessment is critical, and properly aligning the assessment to the learning outcomes can produce a constructive learning practice” (Biggs & Tang, 2011, p.74). Module content design and materials must include an assessment plan directed by learning outcomes to address how students will be assessed. The e-Portfolio is designed to fulfil the learning outcomes of the program (Ray et al., 2020) while considering the assessment criteria which are the indicators of how the achievement of learning outcomes is assessed or evaluated. Formative assessment facilitates dynamic assessment which aims at supporting and developing student learning to improve performance. Formative assessment is more about how students could respond to feedback and assistance (Torre et al., 2020). Thus, this suggests that even though formative assessment might not be recorded but can increase the performance of the student.

Lecturers also use Open Educational Resources to facilitate online discussions and scaffolding. According to Knapp (2019), small group discussion activities are the perfect form of social constructivism that introduce topics and provide opportunities for subsequent scaffolded discussions and reflection as well as self-reporting. The lecturer must be present in an online discussion to offer instant feedback and guidance for students. As another form of teaching this is a facilitated FA activity called ‘online discussion’. To achieve learning goals, the lecturer must create collaborative learning, which allows discussion of a problem from various points of view (Muhajirah, 2020). This requires proper planning to ensure fruitful discussions take place. The discussion forums are a formative assessment strategy that assists cognitive and affective learner engagement (Brown, 2019). The online discussion forums are designed to give online participants a structure to frame their interaction and convey formative questioning or social information.

Lecturers designed individual and group work for grading and non-grading, often called informal and formal formative assessment activities for students to do via the e-portfolio. Informal tasks such as reflection and self-assessment are examples of formative assessment activities for learning (rather than grading) design of the e-portfolio by lecturers. The study by Taufik and Cahyono (2019) has suggested that the e-Portfolio develops writing skills through self-assessment. For example, through a reflective journal or diary entry submitted weekly as a self-assessment activity, students can identify errors in their writing, which also helps to master the language and content independently. It is a deliberate decision by which they are regarded as informal tasks and used for learning instead of grading. The e-Portfolio encourages students to self-assess their performance on a learning task because it has the specific functionalities that offer support for performance of self-assessment by automatically offering performance standards information on each student's current level of performance (Becker & Merrienboer, 2018).

The formal tasks could be used for different reasons, such as project-based learning, knowledge sharing, interaction, and collaboration as well as learning. The e-Portfolio is, therefore, considered a pedagogical tool that supports project-based and inquiry learning by engaging students through peer collaboration (Song, 2021). Most of the activities were individual tasks and played a crucial role in the student's performance in each module, designed and done in small portions for learning and achievement. The e-Portfolio is designed to achieve the learning outcomes of the module by supporting the student through the process of learning the content. Prashanti and Ramnarayan (2019) affirm that formative assessment facilitates active learning, provides flexibility, focuses predominantly on learning rather than on grading, and encourages feedback that informs further progress.

Evidence of learning collected by lecturers through activities uploaded on the e-Portfolio have the characteristics of formative assessment. Barrett (2010), for example, has alluded to the fact that e-Portfolio involves the electronic collection of evidence demonstrating each student's learning journey and approach over time to provide evidence of their knowledge, competencies, and skills gained.

The formative assessment activities of the e-portfolio present evidence of the learning and achievements of the students. Instructors and students can present projects through a digital platform highlighting major students' accomplishments (Kakama et al., 2017). This resonates with the *Showcase e-Portfolio* which is used to present the best work of the student's selection of a variety of activities done during the semester or year. The results of formative assessment can be used to determine the final mark for the students or determine competency. "e-Learning systems are largely formative tools employed to assist students in summative assessment tasks" (Kerr et al., 2016:72). Consequently, the e-Portfolio contributes towards the final mark, whilst the formative assessment is not chiefly about marks but predominantly about the learning process.

The participating lecturers agreed that the e-Portfolio encourages self-regulated learning through formative assessment activities designed for the students. They support the development of students' self-regulated learning e-Portfolio-based assessment since it focuses on relevant student-centred learning (Rabbani Yekta & Kana'ni, 2020). The relevance relies on the fact that students must do activities on their own and evaluate their activities then correct mistakes before submission. This fosters autonomy in learning tasks to promote intrinsic motivation for learning (Beckers & Merrienboer, 2018). Students who take responsibility to do individual work create a culture for self-motivation for learning.

CONCLUSION and RECOMMENDATIONS

The study concludes that formative assessment activities of the e-portfolio were designed to help students learn the content, develop their understanding, further and deepen their learning to achieve the module outcomes. The activities can be informal and formal, but the main requirement is that they must be linked or aligned to specific learning outcomes.

Another conclusion is that formative assessment activities of the e-portfolio encourage interaction and collaboration. Therefore, the lecturer must offer opportunities for discussion. The formative assessment activities of the e-portfolio must be student-centred and allow students to learn self-regulated skills. Lecturers can use them to harness students' soft skills through formative assessment activities.

The study recommends that institutions of high learning must stipulate and define the learning outcomes for the modules and train lecturers on how to set assessment activities.

Limitations of the study

The limitation of this study is that the distinction between an e-Portfolio and an online portfolio is not clear. As a result, lecturers could claim to be using an e-Portfolio whilst using an online portfolio. This created confusion for participants during interviews and resulted in very few participants for the study.

Disclosure and conflicts of interest

There is no conflict of interest, and the article presents the findings of the larger study conducted by the researcher for a Ph.D. study. No financial interests influenced the interpretation of the findings.

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