

# School Experience Students' Perspective on the Benefit of Blackboard LMS for e-Portfolio Development

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**Abstract.** Putting together a Portfolio of evidence is a difficult, time-consuming, and intimidating undertaking, especially when emergency remote online teaching and learning is required as compelled by COVID-19 restrictions. Under these conditions, student teachers were required to finish their school experience teaching practice and provide portfolios of evidence to demonstrate their developing teaching competencies. Given that there were no contact lectures or tutorials during this time, these students had to rely on Blackboard support through online workshops and pre-recorded training sessions to help them construct their school experience e-portfolios. The aim of this study was to evaluate how Blackboard support equipped the student teachers to develop their e-portfolios with no face-to-face contact sessions. This study examined the benefits of Blackboard support in the building of e-Portfolios by student teachers. The fourth-year and Post-Graduate Certificate in Education (PGCE) students submitted data through a qualitative survey in which they narratively conveyed their perspectives on support provided for e-portfolios. Thematic analysis was used to extract meaning units, which were then aggregated into themes and then presented as categories suggested by the research questions. This study evaluates Blackboard support as well as the affordances that are most and least attended achieved with the Blackboard e-Portfolio module, and through the support provided by the workshop facilitators. Recommendations on the effective use of Blackboard, the practices that would foster the realisation of all the conceptual, practical and reflective competencies and the enhancement of e-Portfolio development for the school experience are provided.

**Keywords:** Blackboard · School Experience · Practical Teaching · e-Portfolio · Evidencing Practice

# 1 Introduction and Background

The study reports on the e-Portfolio intervention which started with the Faculty of Education at a particular university in 2019. The imperative was to solve a storage challenge with stacks of hard copy portfolio files, of hundreds of students, which had to be kept for at least 5 years. Furthermore, the portfolio team under the Teaching and Learning Centre at an institution of higher learning had embarked on a paperless drive,

a mandate driven by the institutional strategic goal of digitalisation. While the Portfolio development team was driving this mandate, the COVID-19 pandemic hit all institutions in 2020. As COVID-19 imposed itself, it forced the institution to switch from hard copy portfolios to e-portfolios since all students had to provide evidence of engagement with practice teaching using online means. This included the use of remote online teaching and learning, and provision of evidence through e-Portfolios.

Before COVID-19, the e-Portfolio initiative started with the use of Google sites. This platform allowed for personal expression and creativity; personal ownership; large space with a storage capacity of 15 GB; and the fact that students could utilise their e-Portfolio after graduating for other purposes such as showcasing their e-portfolio for career opportunities. Some lecturers experienced challenges with assessing students' portfolios on google sites. The challenge was that students had to create links and share these links onto Blackboard, this became a challenge as Google forms was not synchronised with the Blackboard LMS. Lecturers could not open the links to google sites shared by students, which then delayed the assessment period. The LMS tool that was used by the University at that time was Blackboard Learn which did not have the e-Portfolio module.

Realising the need for large scale utilisation of the Blackboard LMS, the university switched from Blackboard Learn (self-hosted) to Blackboard Ultra (cloud hosted) with the e-Portfolio component integrated within the LMS. With COVID-19 lockdown restrictions, the uptake of the Blackboard LMS for e-Portfolios sky-rocketed because professional disciplines with a clinical component such as Education, Social Work and Health Sciences made a number of requests for trainings on e-Portfolios. The requirements for the submission of e-Portfolios came from the professional bodies and accrediting agencies of these disciplines and could not be compromised.

#### **2** Literature Review

Most research and scholarship on e-Portfolio development is conducted prior the COVID-19 period with e-Portfolio platforms such Google sites, FolioSpaces, Digication e-Portfolios, Mahara, Blackboard e-Portfolios and Elgg [9, 14, 17]. However, not much is done to evaluate the efficacy of these platforms for e-Portfolio development. In addition, very few studies have been conducted on e-Portfolios with Blackboard Ultra during and post COVID-19. Granted, the scaling up in the usage of LMS during COVID-19, with the upgrade to Ultra with the e-Portfolio module intergrated, a study on the benefits of using Blackboard for e-Portfolio development is apt and timely.

Though there is quite a number of studies on e-Portfolios, the focus has tended to be more general in terms of fields, disciplines and levels, that is, undergraduate and postgraduate [4, 9, 14]. Most studies that are specific have been conducted mostly with teacher education programmes with limited studies in other service professions and clinical courses such as radiology, nursing and other health science related programs [1, 10]. Most studies on e-Portfolios are conducted onprogrammes and qualifications with work-integrated learning (WIL) as it integrates theory and practice, which makes it easy for one to evidence with practice using e-Portfolios. The introduction of e-Portfolios for WIL is a helpful tool for pre- and post-placement planning. These e-Portfolios can also

be used to encourage students' reflection and present their competency gains while on placement [16].

Birgin and Baki found that the main reason why portfolios are used in the professional discipline such as education is that portfolio assessment enables students to reflect their real performance [3]. In other words, through work integrated learning their weak and strong areas are revealed, and lecturers are able to observe student's progress during the learning process. The study also shows that portfolios encourage students to take responsibilities for their own learning. Since portfolio enable collecting information from different sources such as students' parents, friends and teachers, it provides teachers with reliable information about the students.

Although the majority of e-Portfolio research is centred on clinical or professional or education backgrounds, research shows that there are studies on e-Portfolios that are conducted in other fields [12]. For example, a study conducted by Morales, Soler-Domínguez, & Tarkovska explored how to use e-Portfolios efficiently to support post-graduate business students' learning process majoring in finance [13]. This study looked at e-Portfolio as a useful tool to encourage innovative, critical, and reflective learning among graduate students studying finance. According to the study's conclusions, e-Portfolios can be used as a component of a teaching and learning strategy and can assist teachers in developing and fostering students' capacity for critical and reflective thought.

Research has also provided that e-Portfolios are used in traditional fields of study as well, such as Mathematics, however, it has been identified that e-Portfolios have raised issues of concern in this field. The implementation of an e-Portfolio may also raise new issues about the writing process and technologically enhanced mathematical learning [2]. Mathematics is traditionally taught through exercises that focus on practicing calculus and memorizing formulas while using common abilities or models of reasoning [2]. They further state that e-Portfolio introduces new difficulties which consider that mathematics has additional elements that are conceptual, technological, and communicative which are not accommodated by the e-Portfolio platforms.

Generally, research found that students had a positive experience with the use of e-Portfolios in clinical practice courses [1]. Research findings also show that there is a significant positive correlation between students' self-reflection and students' performance, and that using students' self-reflections using the e-Portfolio significantly improve students' learning [8]. However, some studies revealed that students had a negative experience that affected their future use of e-Portfolios, as there was a negative relationship between students' experience and future utilization in both the correlation test and regression analysis [9]. Both the academic literature about LMS and e-Portfolios showed that students often experience problems resolving issues associated with updating and configuring software and hardware required for running e-Portfolio applications in web browser software [14].

As far as future practice and employability, research on e-Portfolios has also examined students' level of planning to enter professional employment, and the help that they receive with this task from the university. The research that was conducted quantitatively, observed the students' opinions before and after they created their own professional eportfolio, as a case study. The results show that the e-Portfolio is a tool with strengths for labour market entry, while also revealing the weaknesses that students find in it. This study therefore shows that e-Portfolios can assist students when entering the labour market as a form of self-advertising [11].

# 3 Problem Statement

In South Africa and elsewhere in the world, many studies have been conducted on e-Portfolios using other platforms other that Blackboard. However, these studies were conducted before the start of the COVID-19 pandemic [7, 19, 20] when practice was normal. Thus, literature on students' experiences and the challenges of using e-Portfolios on clinical practice during COVID-19 are not well documented [1]. Though there is sufficient data on the effectiveness of e-Portfolios in other related programmes with clinical practice such as Medical Education [9], there is paucity of information on the use and effectiveness of e-Portfolios for other disciplines without work integrated or service learning. In addition, the pedagogic affordances and issues for successful implementation e-Portfolios are not adequately addressed in literature. Therefore, a study on the benefits of Blackboard LMS on e-Portfolio development is warranted since it will add to scholarship on the benefits as well as factors that account for successful development of e-Portfolios using the Blackboard platform. Arising out of the above observations, the following questions were formulated.

### 3.1 Research Questions

- i. How beneficial is Blackboard support in the building of e-Portfolios by fourth-year B.Ed and PGCE school experience students?
- ii. What are the significant aspects of Blackboard support that enabled e-Portfolio development for fourth-year B.Ed and PGCE school experience students?
- iii. How could Blackboard support for e-Portfolio development for fourth-year B.Ed and PGCE school experience students be improved?
- iv. What evidence can be provided for the benefits of Blackboard support in the development of e-Portfolios for fourth-year B.Ed and PGCE school experience students?

# 4 Research Methodology

### 4.1 Research Design

The parallel or convergence mixed-methods design was employed with quantitative and qualitative tools administered independently of the other and run concurrently. It is suggested that quantitative and qualitative methods are weighted equally and data analysed independently [5]. The results are related and then interpreted together with the purpose of corroboration and triangulation. This design enables the researcher to provide a complete picture of the issue being explored, and validates one set of findings with the other [6].

### 4.2 Sampling

From the 4th year B.Ed and PGCE school experience students who attended the e-Portfolio development workshop, 111 responses, that is, completed questionnaires, were received. The participants of the workshop were selected conveniently on the basis of their availability and accessibility since they were workshop participants. Convenience sampling involves choosing settings, groups and individuals on the basis of their availability and willingness to participate in the study [15]. According to these authors convenience sampling is applicable in a mixed methods mode of inquiry.

### 4.3 Data Collection

Google forms was used to collect both quantitative (numerical responses) and qualitative (narrative responses). The link for google forms was sent to all students who participated in the e-Portfolio development workshop immediately after the session. However, students responded at various times, with the majority responding after a few days had lapsed. The quantitative aspect of the form asked participants to rate their level of confidence on the use of Blackboard to develop an e-Portfolio. It consisted of a rating scale with 3 response categories. The qualitative aspects of the questionnaire asked participants to describe the significant aspects of the Blackboard LMS which enabled e-Portfolio development. Other qualitative questions required improvements needed on the Blackboard e-Portfolio support provided, as well as the evidence of the benefits of Blackboard support for e-Portfolio development.

### 4.4 Data Analysis

Thematic analysis was used for the analysis of qualitative data. It involved the summary, distillation and condensation of data into themes. A pattern of recurring themes forms a categories suggested by the research questions. It is argued that thematic analysis is a method of construction which describes and interprets the experiences, meanings and the reality of participants [13]. These themes were presented narratively with representative and/or profound quotes embedded or interspersed in the narrative. For quantitative data, descriptive statistics in the form of frequencies and percentages were used to present quantitative data in a summarised and aggregated form. These summarised observations were then presented as tables. Analysis of quantitative and qualitative data were done independently with the results of the analyses integrated and interpreted together [5]. The frequencies of common themes which emerged from qualitative data were computed and this process helped in the rank-ordering of themes through quantitative analysis.

# 5 Results

### 5.1 Effectiveness of Blackboard LMS in the Development of E-portfolios

The benefits of Blackboard LMS in the development of e-Portfolios for school experience students was distilled from the question which asked the confidence that students had with e-Portfolio development following the workshop. The table below show the summary of the results.

<b>Response Categories</b>	No of Students	Percentage
Yes	92	83%
No	08	7%
Unsure	09	8%
None responses	02	2%

The majority of the participants who said "Yes" (83%) indicated that they were confident with their proficiency on e-Portfolio development using Blackboard. However, very few were still not confident (7%), with the remaining unsure (8%) expressing ambivalence about their confidence in their abilities to develop e-Portfolio using the Blackboard LMS.

#### 5.2 Significant Aspects of Blackboard LMS Which Enabled e-Portfolio Development

The demonstrations, facilitator's knowledgeability, clarity, understandability and patience were identified as critical factors that enabled the development of e-Portfolios on Blackboard. The quality of the presentation, a steps-by-step process, inclusion of videos (asynchronous) and recordings served as reminders which enabled the repeat of the e-Portfolio development process with students on their own. Again, the ease of access of Blackboard e-Portfolio enabled seamless navigation from the course pane to the e-Portfolio screen and the transfer of files. From these findings, it would seem that by-and-large, the attributes of the facilitators and the quality of the presentation by the facilitators were mentioned as more enabling the development of e-Portfolios on the Blackboard platform.

#### 5.3 Suggested Improvements on Blackboard Support for e-Portfolio Development

The workshop participants suggested tutors to assist in providing guidance in the development of e-Portfolios. In particular, the need for a personal feel on the individual's e-Portfolio being developed is captured this way: "navigating around doing my own personalization of a portfolio" In addition, the need for "...more training, before school experience and during school experience", and a recap session were mentioned as important aspects of the revision of the session which students were clamouring for. More time to practice the process of developing an e-Portfolio by "...giving out more time for practicing how to do an ePorfolio" including the call that "links must be provided for practice so that we know how to upload portfolios on Blackboard" are some of the improvements suggested by the students. Students also indicated that the creation of videos needed revisitation since this is an important element of the school experience e-Portfolios. One of the participants commented that "...by recording a video that explains step-by-step... makes things more easy". It was also suggested that the Portfolio development team of the Teaching and Learning Centre would do well to review and provide feedback comments that would help student teachers in the improvement and further development of their e-Portfolios.

#### 5.4 Evidence for the Benefits of Blackboard for e-Portfolio Development

The table below documents the list of themes that emerged from the analyses of school experience students' responses on the use-value of e-Portfolios for their teacher development practices.

Emerging themes on the benefits of Blackboard for e-Portfolio development		
Themes	Frequency	
Collect and storage of materials	12	
Uploading materials and resources/Update and review of documents	9	
Filing and organisation of materials	38	
Submission and sharing of materials and resources	2	
Creation and uniqueness of materials	13	
Evidence of practice	25	
Employment/Career Advancement	2	
Reflection on practices	4	

The table above shows areas indicated by school experience students as benefits of using e-Portfolios. When rank-ordered, the most cited is the filing and organisation of materials (38); evidencing of practice teaching (25); creativity, uniqueness and personalisation in the presentation of materials (13); dossier for the collection and storage of materials (12); Upload of materials and resources with periodic updates and review of materials and documents (9). The reflection on practices (4) and future employment and long-terms career benefits were appreciated the least by the school experience students who attended the e-Portfolio development workshop for the first time.

# 6 Discussion of the Results

The level of confidence in the use of e-Portfolio is testimony to the ease of use and the seamless navigation and interface between the e-Portfolio module and the Course panel. The results of this particular study are telling of the benefits of the Blackboard e-Portfolio development platform for school experience (practice teaching) students. These findings corroborate literature [1, 8] on the positive experiences of students in disciplines with a Work Integrated Component (WIL). The findings of this particular study go further than just achievement of learning outcomes to state specific areas in the various aspects of work or practice where e-Portfolios with the Blackboard LMS are beneficial. The aspects such as reflection on teaching practice, employability and career advancement where very few students mentioned these can be explained by the fact that both 4th year B.Ed and the PGCE students are yet to engage fully with the e-Portfolios since they all started working with them during the COVID-19 period. Thus, the findings of previous studies [3] on reflection on real performance, as well as Simmons and Williams, on employability were not fully supported by the findings of this particular study [16]. It can be argued that some of the affordances of e-Portfolios come with continuous use of

e-Portfolios, and that the periodic update and review appreciated by quite a number of participants in this particular study, is a positive step towards reflective practice.

The areas of success in e-Portfolio development such as the knowledgeability of the workshop facilitators, demonstrations, quality of the presentations, and the step-by-step process need to be consolidated [18]. The areas indicated as needing attention, such as more time for practice and the creation of videos, are niches for follow-up interventions especially with the few participants that indicated low levels of confidence, and/or were still unsure with the development of an e-Portfolio using the Blackboard LMS. The negative experiences with e-Portfolio identified by [2], especially those relating to disciplines such as Mathematics which calls for high order conceptual, technical and communication competencies, could be overcome by the configuration of software and browsers. The success reported by the use of e-Portfolios with Postgraduate Finance provided evidence of the adaptability of applications and the use-value of e-Portfolios in highly technical disciplines that have no clinical or Work Integrated Learning component [13].

#### 7 Conclusion

Since this particular study is conducted whilst the e-Portfolio development intervention is up-and- running, the results are pointing out areas of success and benefits as well as niches for improvement. The successful implementation of the Blackboard for e-Portfolio development can be seen from the high levels of confidence that the majority of participants of the workshop refer to in the findings above. The ease of access of the Blackboard platform and the seamless movement from course panel to the e-Portfolio module is enabling and supporting the use of Blackboard in the development of e-Portfolios. It also transpired that the attributes of the facilitators such as knowledgeability, clarity of the presentation and patience, are critical in the success of the e-Portfolio development process conducted online. In addition, breaking down the process of e-Portfolio development into digestible chunks, that is, steps of the process, serve an important enabling function. The quality of the presentation with demonstrations, recordings, and videos serve as important reminders and enable repetition of the e-Portfolio development process until mastery is achieved.

#### 8 **Recommendations**

Since Blackboard is the official LMS in the context where the study is conducted, it is recommended that the use of Blackboard LMS for e-Portfolio development be consolidated and advanced. This is because of the ease of access of the LMS to school experience students, seamless navigation of the course panel to the e-Portfolio screen, and the ease of access and transfer of files stored in the course panel. The suggestions offered by the workshop participants are helpful in the improvement and further development of the e-Portfolio development practice through training sessions and workshops offered by the learning support centre. Therefore, continued support in a form of consultations, video recordings, and follow-up workshops are required to ensure the success of e-Portfolio development through the Blackboard platform so that participants have minimal hiccups 118 V. Nkonki et al.

in the process of developing their portfolios. Further research on Blackboard e-Portfolio development for other disciplines such as Social Work and Health Sciences is needed so that a determination can be made about the scalability of the Blackboard e-Portfolio development support in an institutional context.

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