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Course implementation of Mahara e-portfolio: university students' perspective

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Abstract

The paper investigates the feedback from 2nd and 3rd year students in a teacher training programme as part of the e-portfolio course implementation. Mahara e-portfolio platform was used in a compulsory elective course to enhance the learning experience and provide online space for completing various reading, listening, writing, speaking skills, and vocabulary tasks. The research adopts a qualitative approach and analyses expectations, fears, and contributions (before the implementation) related to e-portfolios and likes, dislikes, and suggestions (after the course completion). The paper reflects the students' first-hand experience with e-portfolios and seeks to contribute to the growing area of research on this topic. Based on the data, the expectations towards e-portfolios were relatively positive. The students showed concerns, especially over technical issues and digital skills. As to the potential contribution, the students highlighted the interactive nature of e-portfolios. At the end of the course, the students appreciated especially peer-to-peer learning.

On the other hand, the students showed a negative attitude towards difficulties and challenges with using the e-portfolio at the beginning of the process. The students also suggested using one platform instead of multiple platforms. The findings can be of interest to teachers, lecturers, instructors or anyone planning to implement e-portfolios in the field of education, especially with a focus on higher education.

Key words: electronic portfolio, feedback, implementation, language skills

Introduction

A growing body of literature deals with e-portfolios and their possible use in various areas. Existing research recognises the importance of the e-portfolio implementation process and proper planning beforehand. Several factors may positively or negatively affect the process of implementation.

As previously mentioned, a portfolio as a versatile tool can be implemented in a number of fields, such as education, medicine, art, and others. Even in the field of education, the reasons for its implementation may vary depending on its purpose while considering the level. Primary, secondary and higher education provide specific learning environments and thus focus on achieving distinctive learning goals, which must be considered, especially in the initial phase of the e-portfolio implementation process. Since this paper provides an example of using an e-portfolio in the context of higher education, it may inspire university teachers to enhance their course curriculum with extra content demonstrated through an e-portfolio platform. This study investigates students' attitudes towards using an e-portfolio in the university's compulsory elective course. This study sets out to further understand expectations, fears and possible contributions of e-portfolios before their actual use. Afterwards, the focus is shifted towards likes, dislikes, and suggestions from the students enrolled in the course. It is believed that understanding the views and experiences of the students before and after the e-portfolio implementation can provide valuable insights into the topic. This paper adopts a qualitative approach by analysing the feedback from the students. It begins by introducing the current state of research in this field, and it will then go on to the research methodology, data analysis, and presentation of findings.

The current state of research

To understand the nature of the tool, „ePortfolio is considered as a record of documentations articulating student's progress, skills, competencies, experiences, and achievements over time" (Lu 2021, p. 100). Furthermore, the author also points out the possibility of using an e-portfolio beyond the school environment, i.e. an extended CV to potential employers/stakeholders to demonstrate the student's best work.

Alexiou and Paraskeva (2010) state that e-portfolio can support self-regulated learning. Based on the self-regulated model by Zimmerman (2002, as cited in Brenner 2022), self-regulated learning consists of three main

phases: the forethought phase (focuses on establishing objectives, concerns also motivation, skills, and organisation of participation in an assignment); the performance phase (attentive participation of learners in assignments while using strategies, and tracking one's progress); the self-reflection phase (reflecting on work using self-evaluation).

When considering the implementation of e-portfolios into education, it is essential to be aware of possible advantages and disadvantages. In their study, Zhang and Tur (2022) introduce the most dominant benefits and drawbacks based on the review of secondary publications related to e-portfolios in education. Based on the findings, e-portfolios can: "support self-regulation and develop self-directed learning (SDL) skills; address cross-curricular knowledge and 21st-century skills; encourage self-reflective learning, facilitate self-reflection and self-evaluation; nurture engagement, facilitate interaction, communication, and collaboration; facilitate personal/professional development and life-long learning; visualise learning; enable learners and educators to track the learning progress; motivate learners; strengthen social networks, facilitate building an online community, and enhance communication; enable learners to have feedback from peers and teachers; optimise learning outcomes; support educators regarding teaching and evaluation" (p. 61). Furthermore, the authors point out the flexible and accessible nature of portfolios, the fact that they are simple to operate and work with, and their benefits concerning employment (i.e., improving one's prospects in the future).

In her study, Ciesielkiewicz (2019) examines e-portfolios in the context of higher education through the investigation of students' perspectives. Based on the findings, she considers the perception of the usefulness and value of e-portfolio as a crucial factor that impacts students' intrinsic motivation to be proactive in creating and working with such a portfolio. The research participants consider e-portfolios a valuable and helpful tool for learning and evaluation. Moreover, the students do not consider e-portfolios to be solely a means to an end in terms of course completion and show a willingness to use e-portfolios in the future even though e-portfolios are not expected, nor are they compulsory in Spain to present teachers' progress or to obtain teacher certification/registration.

Apart from the benefits, several drawbacks need to be addressed when implementing the e-portfolio. In their study, Totter and Wyss (2019) present the opportunities and challenges of e-portfolios in teacher education. The chosen e-portfolio platform was the same as the e-portfolio platform in this research – Mahara. Regarding the challenges, based on the findings obtained from the interviews, the students consider the decision about an e-portfolio entry to be difficult and highlight the importance of its personalised nature and applicability to everyday life, making the work with a portfolio meaningful. Moreover, the students find using academic language in their portfolios more challenging. For some students, the combination of work and studies is perceived as quite stressful, influencing their work with a portfolio. Emphasising time efficiency, the students acknowledge that they produce the portfolio entries exactly before the deadline, which they understand is less advantageous in their learning process. The usability of technology was assessed rather critically. Mahara was considered too complex by all students in that many settings and features were seldom used. The authors also mention that even though some students find it advantageous to work with an e-portfolio, others favour offline work.

Walland and Shaw (2022) mainly analysed European and US studies focused on e-portfolios and their implementation in education (focusing on secondary schools and universities). Based on their findings concerning possible challenges and opportunities, the authors recommend the following:

- In the initial phase, digital competencies, usage design, and the framework among those who will participate in this process will be analysed to evaluate training demands.
- Examine e-portfolio literacy.
- Before the actual implementation, make sure to provide technological training and support.
- Teachers may require more support and counselling than students.
- In the initial phase, inform about the advantages of e-portfolio in the learning process and its value concerning pedagogy.
- Students should have digital competencies to work with an e-portfolio.
- An e-portfolio should be incorporated into the syllabus; the appropriate software should also be selected to fulfil the designed functions and objectives.
- The amount of work students must do in their portfolios should be moderate and convenient.
- The chosen approach to e-portfolio software should consider different aspects found in the literature.
- It is technology rather than pedagogy that should drive the e-portfolio design and the process of implementation.

In addition, based on the students' perspectives on e-portfolio, the following guidelines for successful implementation were outlined (Hsieh, Lee, & Chen, 2015, p. 652):

- "Demonstrate the usefulness of e-portfolios for learning and employment. Students' motivations to prepare and update artefacts are due to the value of the use of e-portfolios by educators and administrators.

- Give opportunities to learn from example e-portfolios listed in schools' systems. Students gain encouragement and become enthusiastic towards creating their own e-portfolios.
- Emphasise the importance of ownership of an e-portfolio. Students have access to their e-portfolios after graduation and can continuously update content, such as certificates and technical skills gained post-graduation.
- Provide instructional training programs and consulting services. Students can develop e-portfolios despite low-level online publishing skills.
- Establish a culture for using e-portfolios. Students become accustomed to regularly updating their e-portfolios and willingly accept responsibility."

Zhang and Tur (2023) systematically reviewed and analysed academic papers and publications on e-portfolios during the COVID-19 pandemic. Based on their findings, the authors propose a co-design strategy of a collaborative e-portfolio: planning (students – discussion with both teachers and peers, establishing aims, collaborative planning, teachers – preparing a tutorial, choosing tools/platforms, creating guidelines, rubrics, suggesting templates/examples); implementation (students – gathering evidence of learning, collaborative work with peers on documenting and designing e-portfolios, systematic communication with teacher(s), teachers – supervision of the process, continuous support and guidance, boosting students' collaboration); reflection and revision (students – self-assessment/reflection, peer evaluation/feedback, recording peers' and teacher(s)' feedbacks, revision and optimisation; teachers – continuous and constructive feedback, formative evaluation, providing propositions for optimisation, promoting both peer-feedback and self-reflection of students); showcase (students – presentation of learning, self-reflection, competence development, recognising help from peers/teacher(s); teachers – providing summative evaluation and feedback, highlighting glows and grows). Moreover, for the effective use of e-portfolio in higher education, the authors recommend the following: „adopt the co-design e-portfolio approach; incorporate the collaborative frameworks with CoI and CoP elements; provide adequate guidance and support; track and monitor the collaborative e-portfolio implementation" (p. 598).

Zhang and Tur (2022) highlight the following most dominant issues that could be faced when implementing e-portfolio: "learners' uncertainty, concerns, and reluctance due to relatively intense workload and challenges in comprehending processes; there was a shortage of support (technological skills, internet issues, structural aid); digital ethics: issues of privacy, confidentiality, consent, copyright and intellectual property when they are used in the classroom; lack of interaction; has constraints in peer evaluation and collaborative learning; some platforms/tools are not user-friendly and difficult to navigate; lack of originality and creativity: many of the current options for software platforms are too standardised" (p. 62). By understanding both advantages and disadvantages, it is possible to manage implementing an e-portfolio into the course curriculum more effectively. The following part presents the research methodology, analysis and findings.

Research methodology

The present study utilises the feedback from 2nd and 3rd-year students and thus adopts a qualitative research methodology. The in-depth analysis of students' expectations and reflection on the e-portfolio course implementation seeks to provide information that can help teachers supervise the implementation process and avoid potential issues. At the beginning of the semester, the students enrolled in the course were informed about the ongoing research. They were asked to provide their feedback before and after the e-portfolio experience. It was announced that the data would be used solely for the study, and the data collection would be anonymous.

E-portfolio was implemented in the course Grammar Competence Development in the summer term 2023, a compulsory elective course available for students of a teacher training programme (English language and literature combined). The course focuses predominantly on practising and deepening knowledge of English grammar. Consequently, students should be able to use proper grammatical structures in productive and receptive language activities. Therefore, an e-portfolio was implemented to enhance the course with more skill-oriented content, namely listening, writing, reading, speaking, and vocabulary (nouns, adjectives, and verbs).

As an e-portfolio platform, Mahara was chosen and implemented for one semester in the Grammar Competence Development course. One of the reasons is that Mahara is an open access platform and had been used at the university before for teaching practice. It is important to note that Moodle was used alongside the Mahara e-portfolio platform, i.e. they were used simultaneously.

In Moodle, the students could download the course syllabus. Moreover, the materials and handouts used in the course were uploaded to Moodle. The students were also given a key to grammar exercises after each seminar to check their answers, especially to the exercises that were supposed to be completed as part of self-study.

In Mahara, the students were asked to complete various tasks related to strategies that could enhance their reading, listening, writing, and speaking skills. For that purpose, the lecturer created four journals which were

transformed into pages so the students could freely contribute to each journal. The students shared strategies and suggestions/recommendations to develop their language skills. Their input was visible to other classmates so they could find inspiration and learn from each other. The tasks were aimed at supporting peer-to-peer learning. The outcome was a bank of language-oriented strategies. Secondly, three more journals were created and made into pages – vocabulary (nouns, verbs and adjectives). The aim was to expand students' vocabulary regarding nouns, verbs and adjectives. Each student was supposed to upload ten uncommon words, i.e., unusual words, and their definitions from each word class. That way, three glossaries (nouns, verbs, and adjectives) were created using unique vocabulary.

The students were supposed to check the words uploaded by their classmates and avoid repetition. Much literature investigates how collaboration and cooperation may affect a learning process. According to Laal and Ghodsi (2012), collaborative learning "has numerous benefits and typically results in higher achievement and greater productivity. More caring, supportive, and committed relationships; and greater psychological health, social competence, and self-esteem" (p. 489). Moreover, Shaddad and Jember (2024) investigated how feedback-supported tasks and peer-work activities affect learners' engagement, self-esteem, and language growth. Their study highlights "the importance of incorporating collaborative and feedback-driven approaches into language instruction" (p.27). Moreover, the authors point out that social interaction is crucial in language learning. It is important to note that tasks in Mahara relied more on cooperation and collaboration than handouts uploaded to Moodle, which were mainly completed during the seminar.

At the beginning of the course, the students were asked to provide their feedback (23 students) in the form of the following open-ended questions:

Expectations – What do you expect from your work with the electronic portfolio?

Fears – What are your concerns regarding the electronic portfolio?

Contribution – In your opinion, can the electronic portfolio contribute to your learning experience? If so, how? If not, why?

At the end of the course, the students were asked to provide feedback (20 students) using the following structure: *I liked … , I did not like … , My suggestions …*

Afterwards, the feedback was collected and analysed using thematic analysis, i.e., open-ended answers were categorised and analysed thematically.

The reason for a different number of students providing the feedback could be that some students were absent that day or/and some students had decided to leave the course at the beginning of the semester (primarily because of timetable issues). Therefore, it is essential to acknowledge that these students might have had a positive or negative attitude towards the e-portfolio experience, which might have affected the study findings to a certain extent.

The following section presents research findings from an in-depth analysis of the feedback provided.

Research analysis and findings

The feedback was collected and investigated while focusing on the student's expectations, fears, contributions, likes, dislikes and suggestions concerning the e-portfolio course implementation.

Feedback 1 (before the e-portfolio implementation)

Expectations

Regarding the expectations about their work with an e-portfolio, many students had had no previous experience with an e-portfolio; thus, it was new to them. They expected or hoped that an e-portfolio would be helpful, interesting, useful, comfortable, easy to use, entertaining, and used in the future. One student also expected an e-portfolio to be time-consuming at the beginning (but showed a positive attitude towards getting to know the group more). Another pointed out that such an experience could help learn to work with similar tools. In addition, one student showed interest in learning about an e-portfolio (advantages, disadvantages, and its usefulness in the future).

The students mentioned easier work with information, and the e-portfolio was also regarded as an active source of information. In addition, the students expected the materials to be shared more quickly, the worksheets to be uploaded to the platform (without the need to print them out), and doing (online) handouts.

Another dominant expectation from the students was increased interaction among students, i.e., contact with classmates and a teacher and getting to know each other better. Moreover, the students expected they would be able to connect with the community of English language learners worldwide.

One of the students highlighted that even though an e-portfolio can make the process easier (easy to log in via a browser and work there), it can also prove ineffective if it becomes merely a useless extension of existing mechanisms. One student did not write anything.

Fears

In connection to possible concerns the students might have, the following aspects of an e-portfolio were mentioned: issues with bugs, glitches, electronic difficulties, lousy connection, problems with logging in, issues such as being unresponsive, work being deleted for unknown reasons.

As to the platform itself, the students feared it would be too complicated, difficult (e.g. to navigate through) or stressful. In addition, the students showed concerns over the lack of digital skills, and one mentioned that it would mean more work during the semester.

Based on the data, some students feared that using many platforms would be confusing and they would have to get used to another new online environment. Another dominant concern was the time-consuming nature of e-portfolios, e.g., it would take too much time to learn how to use it, they would not have time to check it/contribute/do every exercise, or forget to check/use their portfolio. Some students did not show any concerns whatsoever. One did not write anything.

One student also mentioned that an e-portfolio might not have a significant effect, another feared that an e-portfolio would not be really used, and one showed concerns over the fact that s(he) would not be able to pose appropriate questions.

Contribution

When asked whether an e-portfolio could or could not contribute to students' learning experience, some students were hesitant since many had no previous experience with e-portfolios, so it was difficult for them to address the question.

The students highlighted the interactive nature of an e-portfolio (e.g. the contact with both English and people using it), the fact that they could get inspiration/advice from other classmates, or that they could learn from articles. Moreover, as a possible contribution, the students included more straightforward access to information (e.g. new and interesting information people all over the world share), more comfortable learning (due to its online form), more efficient and quicker storage of materials and their sharing, easier time doing exercises and homework (if students are more used to online platforms and apps).

One student reported that an e-portfolio can positively contribute to learning, provided it is straightforward, easy to use, and funny. On the other hand, it can negatively affect learning if it is tedious and difficult to use. Another student pointed out the possibility of using an e-portfolio when applying for a job, as schools and companies are technologically advanced, and an e-portfolio might help provide information about work/interests. Furthermore, one student reported that an e-portfolio could teach them something new and valuable. Some students did not write anything.

Feedback 2 (after the e-portfolio implementation)

I liked ...

In the section "I liked ..." where the students were supposed to express what they enjoyed while working with an e-portfolio, the following was reported: a new experience, creative, interactive, engaging, suitable for knowledge, and a very good course. Furthermore, the students highlighted the shareability, peer-to-peer learning – they could learn from their classmates (e.g. seeing their ideas, suggestions, advice, opinions, and perspectives on various topics, getting inspiration, and sharing vocabulary).

The students appreciated the teacher's connection with the students, their mutual respect, and the calm and fun atmosphere during the seminars. As to the activities themselves, according to the data obtained, the tasks were not perceived as complex. The platform also helped the students with vocabulary (to learn/enrich it), to reflect on their language skills, and to find new strategies to improve them to express their creativity.

The students could access information from home. They showed appreciation for the variety of tasks (one student also mentioned external motivation in that they were "forced" to do the tasks because the teacher would have seen it if they had not done them), grammar topics, and their deep analysis. As to the platform itself, the students emphasised the tutorials and the importance of the instructions given. Moreover, other aspects mentioned were the website's design and the possibility of editing access to a journal. Two students expressed a positive attitude towards Mahara, one of which also mentioned the chance to use it in the future for sharing journals.

I did not like ...

Several drawbacks were reported when asked about what the students did not like about their work with an e-portfolio. For some students, the e-portfolio was initially perceived as challenging (one student wrote that if it had been more straightforward, (he) would have liked it more). They expressed a negative attitude towards having another task/more homework to do. Moreover, two students either forgot to check their classmates' input or almost forgot to do their task in the e-portfolio. The following negatives were reported: the old-fashioned design of the Mahara e-portfolio platform, passive participation in conversation topics by the course leader, the fact that some of

the tasks were visible to everybody (i.e. feeling insecure about one's work) and that it was evaluated. Several students did not write anything.

My suggestions ...

In this part of the feedback, the students had an opportunity to contribute to improving the implementation process by providing their suggestions, tips, and strategies. Based on the data obtained, the students recommended one portfolio/platform instead of having multiple platforms, using a platform that they had already been working with, or having Mahara implemented in Moodle[1] (in addition, one student mentioned it was sometimes challenging to find things in Mahara). More suggestions were reported, such as commenting on posts by students, different conversation topics, not uploading the task in the previous week (i.e. difficulties with navigating through tasks), including writing more (i.e. about their opinions or some topic), to improve Mahara's design, to talk about the glossary more during the seminar. One student reported that the work with an e-portfolio was not plentiful or terrible. However, s(he) hardly sees any possible improvements. Some students recommended using it in other subjects too/ to continue with it. Some did not write anything.

Conclusion

This research analysed the students' attitudes towards e-portfolios in a teacher training programme. It is important to emphasise that the investigation comprises both types of feedback (before the e-portfolio implementation focused on expectations, fears, and possible contributions, and after the e-portfolio implementation focused on likes, dislikes and suggestions).

This study set out to better understand students' attitudes towards e-portfolios in the context of higher education. The paper has identified several issues and recommendations that can help navigate the implementation process of e-portfolios. The current data highlight the importance of students' perspective and reflection on the e-portfolio experience as it provides necessary information to help meet students' needs as part of their learning process.

As to the expectations of the students at the beginning of the course, the research has demonstrated relatively positive expectations towards e-portfolios (e.g. something useful, increased interaction and access to information). On the other hand, the students showed concerns over technical issues, digital skills, multiple platforms, and the time-consuming nature of e-portfolios. When asked about the possible contribution of e-portfolios to their learning process, the students highlighted the interactive nature of e-portfolios (e.g. finding inspiration/getting advice from classmates), storage of materials and their sharing).

After the e-portfolio experience, the students were asked to provide feedback, such as likes, dislikes, and suggestions. Regarding likes, the students appreciated the new experience, the shareability and peer-to-peer learning, the tasks connected to language skills and vocabulary, and the tutorials and instructions given. On the other hand, the students did not like how difficult and challenging the platform was initially and that using an e-portfolio meant more work. As to the suggestions for future improvement, the students recommended, for instance, that one platform be used instead of multiple platforms. Other highlighted aspects were, e.g., commenting on student posts and discussing the glossary more. Some suggested continuing with e-portfolios or using them in other subjects as well. At the end of the semester, the students who did not provide the feedback for various reasons (e.g. being absent or leaving the course soon after enrolment) might have expressed similar concerns and suggestions, such as multiple platforms and the challenging nature of Mahara as they were dominant among students' perceptions. There are similarities between some of the positives and negatives of e-portfolios reported in this study and those described by Totter and Wyss (2019) and Zhang and Tur (2022).

The major limitation of this study lies in the low number of respondents as the study investigates only the attitudes of the students enrolled in the compulsory-elective university course, which makes these findings less generalisable. Moreover, the number of respondents in the feedback differs as some students were absent or left the course soon after enrolling, which might have affected the research findings to a certain extent. Despite the relatively limited sample, this research seeks to offer valuable insights into the positives and negatives concerning e-portfolio implementation in the context of higher education. Moreover, the study provides suggestions and recommendations from students with first-hand e-portfolio experience. The findings have several important implications for future practice, e.g., recommendations and strategies that may help teachers, lecturers, instructors, or anyone planning to implement an e-portfolio platform (especially in higher education).

The research has thrown up many questions that need further investigation, for instance, regarding the options the online space of e-portfolios provides and different kinds of tasks that can be uploaded there to enhance students' learning experience. Thus, further investigation into this area is strongly recommended. In addition, additional work

[1] Note: It is possible to integrate Moodle and Mahara – the so-called „Mahoodle".

is needed to fully understand other implications of e-portfolios in the context of higher education, e.g. their possible use in connection to the labour market after university studies.

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