# Design and Evaluation of "Portfolio Practice I,"
# a Course for Online Graduate Students

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**Abstract:** This paper describes our implementation of a new course entitled "Portfolio Practice I" for online graduate students. After introducing the course design and presenting our results, we examine, from system, reflective, and cognitive viewpoints, how the learners responded to the course experience as part of the curriculum.

*Key words*: portfolio, showcase, learner perception, reflection

## INTRODUCTION

"Portfolio" is becoming a common term in higher education. The purpose and method of portfolio use is varied. It can be formative (learning) and/or summative (assessment) (Trevitt, Macduff, & Steed, 2014; Van Tartwijk & Driessen, 2009). Capable of being adapted to the specific purpose of the target program or organization, portfolios provide a flexible and influential tool. While there have been a number of teacher education papers dealing with [e]portfolios, the majority of these focus on the development process (Balaban, Mu, & Divjak, 2013). Recent efforts have been more focused on learner perspectives, with researchers exploring successful factors in the development and use of EPSPI (Electronic Portfolio Students Perspective Instrument) (Ritzhaupt, Ndoye, & Parker, 2010), investigating factors that influence student use of personal, academic, and professional development portfolios (Ahmed & Ward, 2016), and developing an instrument for assessing an e-portfolio (Balaban et al., 2013). Given that the aims and goals of portfolio stakeholders vary, satisfying the needs of all is difficult (Parker, 2012). Indeed, this is one of the main challenges to bringing portfolio usage into successful operation.

This paper describes our implementation of "Portfolio Practice I," a new course for online graduate students. After a trial year, we introduced the course as a mandatory part of our curriculum. Our focus

was on both the learning process and the summative assessment provided by the students themselves. After describing the design of the course, we review how the learners perceived course implementation and report on their overall experiences.

## PORTFOLIO COURSE DESIGN

The target program is for master's to train practitioners in education general. Most are adult students and all took online courses with Moodle. The program has 12 core competencies that represent the basic knowledge and skills to be fulfilled by completing the required course as well as seven optional competencies obtained through elective courses. Portfolio Practice I is designed for first year online graduate students as a required course. The yearly course opened in 2015. Its design is based on a prior year's test operation in which we offered the students at the target graduate school several reflection activities throughout the trial period. The current course design is based on what we learned from this trial year. The main purpose of the course as it is currently designed is to provide opportunities for students to revisit what they have been required to do in the program and reflect comprehensively on the learning activities involved. It is intended as a vehicle for students to reflect on all activities in the graduate school in an integrated manner. This critical reflections are introduced on a regular basis throughout the term; showcase development and a summative reflection—essentially a rehearsal of the final exam—occur at the end of each semester. All full-time master's students are registered for this course automatically; however, to complete the course, students need to complete other required courses, since all the activities of this portfolio course are premised on those courses.

In conducting the course, we use Moodle as our LMS and Mahara as our e-portfolio system. Moodle is used for course activities such as submitting the reflection report; implementation of the final exam practice and developing the showcases is done with Mahara. All students are required to take an orientation course soon after the announcement of student application results. Admitted students are taught the basic ideas of portfolio development and learn how to use an e-portfolio system by using it to introduce themselves.

Course activities focus on students revisiting activities from their other courses, both separately and in an integrated manner. The course consists of two parts: (1) reflection activities related to specific mandatory courses, and (2) showcase development and a competency-based reflection (a rehearsal of the final exam) which provide a means of summarizing the learning result by showing the student's work, together with appropriate supporting evidence. Combining both types of activities was one of our primary points of emphasis in designing course.

As shown in Figure 1, the course is separated into two blocks: first semester and second semester. Students take the course concurrently with other courses. In fact, the first part of each block is a reflection on each student's other required courses. These course reflections are performed on a regular basis. Activities such as rehearsal for the final exam and showcase development are conducted at the end of the
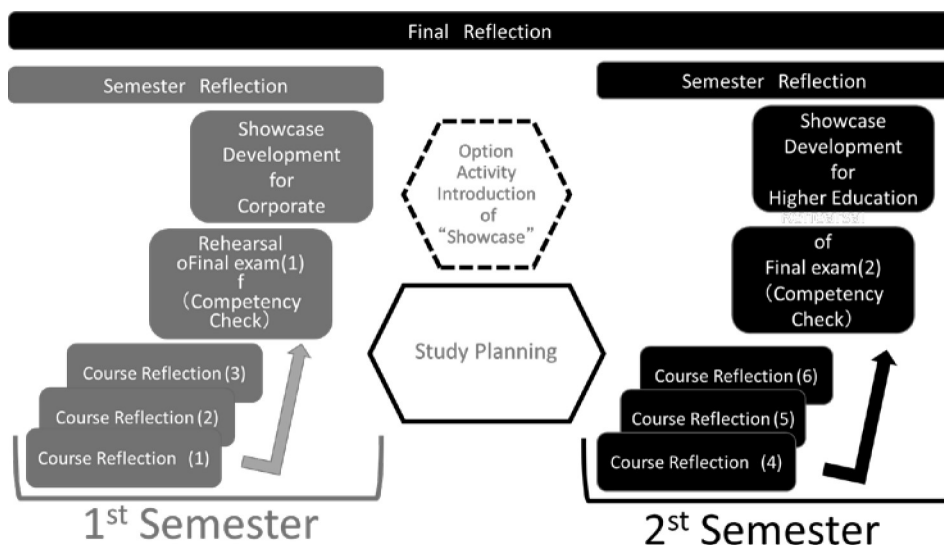
Figure 1. Structure of activities of the "Portfolio Practice I"

semester after students have completed their other required courses. These activities are intended to integrate what the students have learned throughout their program of study. Rehearsal of the final exam is a competency-based reflection activity; submission of competency-based reflection report is a condition for completing the program and the rehearsal is included as preparation for the final exam. Showcase activity is for the students to organize or summarize what they learned to the target readers. Students develop showcase under the assumption that they apply for the job. Between the first and second semester, we offer an optional activity for students to introduce and exchange views on their showcases with peers, seniors, and instructors at a study camp. Study planning for the second semester is also included as an activity of the course.

## RESULTS FROM THE LEARNER'S PERSPECTIVE

Among 22 registered students, 12 learners completed the course in 2015. Ten students failed to complete the course because they had not completed the other required courses that form the foundation of the portfolio course. These ten students did not engage in any activities in the portfolio course; all twelve participants who completed the first course activity completed all the course activities.

We administered questionnaire surveys at the end of each semester. The surveys consisted of Likert scale-type questions and written questions asking students to explain the reason for their selected response; both question types were included in each section. Students answered the Likert scale questions using a 5-point scale (5: applicable, 1: not applicable). Table 1 shows questionnaire results reflecting the students' experience and perceptions of the two semester courses. Overall, the results indicate that both semester courses were generally found to be quite acceptable. By way of comparison, scores for the first

Figure 1. Students' perception through the course activities

| A.   The usability of Mahara as a course tool | 1st Sem. Av. (SD) | 2nd Sem. Av (SD) |
|---|---|---|
| 1. I'm glad to use Mahara as a learning tool for a half a year. | 4.3 (0.7) | 4.0 (0.7) |
| 2. I enjoyed portfolio development with Mahara. | 3.2 (0.9) | 3.8 (0.6) |
| 3. Portfolio development with Mahara was difficult. | 4.2 (0.7) | 3.5 (0.9) |
| 4. I think activities with Mahara will be of help when becoming a portfolio designer in the future. | 4.5 (0.7) | 4.3 (0.9) |

| B.   Effect of participating of "Portfolio Practice I" | 1st Sem. Av. （SD | 2nd Sem. Av （SD |
|---|---|---|
| 1. In this course, "Portfolio Practice I", there are opportunities, situations, and experience for continuous learning reflection. | 4.6 (0.5) | 4.3 (0.7) |
| 2. Through this course, "Portfolio Practice I", I recognized the importance of opportunities, situations, and experience for continuous learning reflection. | 4.6 (0.7) | 4.3 (0.8) |
| 3. I think my reflection skill was improved by opportunities, situations, and experience for continuous learning reflection in this course. | 4.0 (0.7) | 3.9 (0.9) |
| 4. Continuous learning opportunities, situation, and experience in this course was useful to improve learning reflection. | 4.3 (0.7) | 4.2 (0.6) |
| 5. Continuous learning opportunities, situation, and experience in this course will be useful to improve future learning reflection. | 4.7 (0.5) | 4.2 (0.6) |

| C.   Effect of linking other courses in the course | 1st Sem. Av. (SD) | 2nd Sem. Av (SD) |
|---|---|---|
| 1. In this course, "Portfolio Practice I", there was a situation in which I could consider the meaning of attained knowledge, skills and values, then link those. | 4.4 (0.7) | 4.3 (0.8) |
| 2. Through this course, "Portfolio Practice I", I found the importance of consideration and linking of the meaning of attained knowledge, skills and values. | 4.3 (0.8) | 4.3 (0.9) |
| 3. Experience in this course such as considering and linking of the meaning of learned knowledge, skills and values helped to improve learning activities | 4.3 (0.8) | 4.0 (0.9) |
| 4. Experience in this course such as considering and linking of the meaning of learned knowledge, skills and values will help to improve future learning activities | 4.6 (0.7) | 4.3 (0.8) |

| D.   Effect of interaction with peers in the course | 1st Sem. Av. (SD) | 2nd Sem. Av (SD) |
|---|---|---|
| 1. In this course, "Portfolio Practice I", there are opportunities to recognize one's own strength and weakness, and one's standing through interaction with others. | 4.3 (0.8) | 4.1 (0.8) |
| 2. I found the importance to recognize one's own strength and weakness, and one's standing through the interaction with others. | 4.3 (0.7) | 4.2 (0.8) |
| 3. I improved skills to recognize my own strength and weakness, and my standing through interaction with others. | 4.1 (0.7) | 3.8 (1.0) |
| 4. Recognizing my own strength and weakness, and my standing through interaction with others in this course helped to improve learning skills | 4.0 (0.7) | 3.8 (0.9) |
| 5. Recognizing own strength and weakness, and my standing through interaction with others helps in this course to improve learning skills | 4.2 (0.7) | 4.1 (0.7) |

| E.   Reflection/connection/feeling/motivation | 1st Sem. Av. (SD) | 2nd Sem. Av (SD) |
|---|---|---|
| 1. [Reflection] Rehearsal of final exam helped me to reflect on own learning. | 4.4 (0.7) | 4.3 (0.8) |
| 2. [Reflection] Showcase development helped me to reflect on own learning. | 4.3 (1.0) | 4.3 (0.8) |
| 3. [Connection] Course reflection enables rehearsal of final exams smoothly. | 4.2 (0.6) | 3.4 (0.8) |
| 4. [Connection] rehearsal of final exam enables showcase development smoothly. | 4.1 (0.9) | 4.1 (0.8) |
| 5. [Feeling] Course reflection helped to know which part of my ability was enhanced. | 4.1 (0.7) | 3.3 (0.9) |
| 6. [Feeling] Final exam helped to know which part of my ability was enhanced. | 4.2 (0.7) | 4.3 (0.8) |
| 7. [Feeling] Showcase helped to know which part of my ability was enhanced. | 4.0 (1.0) | 4.3 (0.9) |
| 8. [Plan] Rehearsal of the final exam helped to consider future learning and career. | 4.1 (0.8) | 4.0 (0.6) |
| 9. [Plan] Showcase development helped to consider future learning and career. | 4.0 (1.0) | 4.3 (0.8) |
| 10 [Motivation] Sharing outcome of showcases and competency checks motivate me to improve on my own. | 4.2 (0.8) | 4.1 (0.9) |

semester were higher than those for second semester, although the scores for four of the questions (A-2, E-6, E-7, and E-9 in Table 1) were higher in the second semester. "I enjoyed portfolio development with Mahara" showed a higher agreement score, while "Portfolio development with Mahara was difficult" in Section A of the questionnaire had a lower score in the second semester. In the written comments, some students mentioned that the second semester activities were easier than the first because they were more used to the Mahara e-portfolio system, as the iterative activities had acclimated them to Mahara. Since the e-portfolio software will control, restrict or enhance portfolio development (Barrett, 2000), ensuring the usability of the e-portfolio system is essential for success. Written comments show that many students experienced difficulty getting used to the system, indicating that continuous improvement in the functionality of Mahara is one of our future challenges.

Results in Section B of the questionnaire indicate that students felt that course activities were a good opportunity for learning, but when compared to other questions, for question B-3, "I think my reflection skill was improved by opportunities, situations, and experience for continuous learning reflection in this course," the scores were relatively low. The reason was not clear from the written responses. Although most students commented positively on the reflection activity and its effect, some touched on the time limitation and workload. Section C results indicate that learners believed that the course helped them review other courses in an integrative way. In the comments section, one student mentioned that "understanding of competency was one of this activity's outcomes." We believe that linking courses would also help when considering curriculum design. Regarding peers in Section D, while students believed that peers were useful resources to improve their course activities, some felt that they had not received enough feedback from their peers. Some students also felt that commenting to others was difficult, and some noted the limited time for discussion. In their written comments, many students mentioned the usefulness of showcase development. The reasons why showcase development was positively received varied. Many found that summarizing and supporting their ideas in discussions with others helped them recognize their own strengths and weaknesses. Some students were encouraged by the chance to review their thoughts with others and receive constructive feedback. In this way, they appeared to gain insights and were able to reconfirm and/or reevaluate the importance of self-assessment. On the other hand, students generally felt that the rehearsal of the final exam was more of a formality, since the main activity of the rehearsal was following instructions rather than presenting their own feelings or exercising their own creativity. There were exceptions. One student expressed her feeling that "the rehearsal of the final exam helped to integrate learning outcomes and competency." Overall, the combination of a flexible approach such as showcase development and a formal approach such as the rehearsal of the final exam was positively received.

## DISCUSSION

For self-refection to confirm achievement, both showcase and competency based-reflection are effective, although learners tend to feel that showcase development is more worthwhile. For use in assessment, competency-based reflection is essential for accumulating learning outcomes and reviewing individual lessons and assignments. The design of our course included both participant and practitioner views, which was important to achieving our intended course goal. If the observation of Ritzhaupt et al. (2008) is correct—that understanding the purpose of a portfolio is the key to successful e-portfolio development—then we have achieved a measure of success. Although satisfying all stakeholders' needs or expectations is not easy, our approach shows a way of overcoming the difficulty by integrating summative and formative activities (Ritzhaupt et al., 2008). Embedding activities into the learning context is also important (Ritzhaupt et al., 2010). In our approach, the activities were incorporated into the leaning context in a specific course. In a survey conducted by Parker et al. (2012) of students in a teacher preparation program who experienced the creation of a portfolio, approximately 34% of the respondents suggested integrating e-portfolio development throughout their coursework rather than in the final stage of their program. Among the 12 students in our course, 11 (92%) in the first semester and 10 (83%) in the second semester indicated that portfolio development is useful as a required course. It was apparent that students tend to be more positive when portfolio activities are done in a regular pattern. For further analysis of student perspectives on the matter, a detailed analysis of the contents of student portfolios will be needed.

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