

Designing a Digital Badge as a Reflection Tool for an Instructional Design Workshop

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Abstract: This paper describes a design of a digital badge for supporting learners in a blended Instructional Design (ID) workshop, which was held by Kumamoto University as lifelong learning activity. The purpose of this workshop was to introduce a practical method for improving education and to support participants to apply ID in their job. We designed a digital badge as a tool to support participants after the workshop. The aim of using a digital badge was not just used as a program certification, but rather as an index of learning outcomes in a blended workshop such as online report assignment, or as an asynchronous discussion record in forums. By introducing this tool, participants can reflect and demonstrate learning outcomes after the workshop and make use of improving learner's job performance. The tool was constructed out of several default tools of Moodle to connect digital badge icon with learning outcomes. In this paper, we report the design of the digital badge as a tool of reflection and discuss the future plan of this study.

Key words: Instructional Design, Digital badge, Reflection, Blended Learning

Introduction

Kumamoto University has held instructional design (ID) workshops since 2011 as a part of lifelong learning activities. The purpose of this workshop is: 1) to make participants learn a basic knowledge of ID and to improve their education cases from the point of view of effectiveness, efficiency and attraction 2) to enable participants to apply ID in education cases and present proposals for its improvement. So far, a broad variety of working people from a number of fields, such as university faculty, medical doctors, nurses, and Japanese teachers, to name a few, have attended the workshops. Many expressed the need to improve their job performance regarding education in the workplace. Satisfaction with the workshop was high and we received a positive evaluation to the workshop to learn ID hands-on (Tsuzuku, Amano, Morita, Hiraoka, & Suzuki, 2014).

This workshop focused on supporting the participants in solving problems in the workplace through using ID. However, there has been a recurring problem of how to support the reflection and the use of

learning outcomes after the program. In previous workshops, we issued a certificate of participation to the participants. This certification was not associated with the achievement of learning, but distributed to all participants who attended the program. To encourage participants to apply learning outcomes to their job, it was suggested that some mechanism to signify and recognize the accumulation of learning outcomes might be useful. Therefore, we focused on introducing a digital badge, which is an online certificate of completion, and introduced it as a mechanism that can signify accomplishment and show the accumulation of the artifacts of the workshop. In this paper, we describe the design of the digital badge that was introduced.

A Digital Badge as a Reflection Tool

The use of a digital badge is becoming popular as a mechanism to authenticate the learning outcomes of online learning, higher education and MOOCS. Peck (2015) pointed out a digital badge is not a prize to create extrinsic motivation. And he defined a digital badge as “ ‘clickable’ graphics that contain metadata that can reveal information about the individual or organization that issued the badge, the criteria met to earn the badge, the tool(s) used to assess the evidence, and the evidence of learning itself”. Because it includes learning outcomes, assessment and processes, a digital badge can be considered to be a representation of mastery. By acquiring a badge icon displayed online, a learner can demonstrate evidence of acquiring the knowledge and skills of program. Taking advantage of the benefits of the digital network, it is possible to link the digital badge with the learning process and artifacts. For example, the learning process includes the peer and expert reviews of the artifacts of work. Learning outcomes include report assignments and artifacts showing what someone knows and can do (Gibson, Ostaszewski, Flintoff, Grant, & Knight, 2015). In contrast to a paper-based certificate, the digital badge is associated with the achievement and linked to the learning process and outcomes. The digital badge is not a reward for finishing a learning task like paper-based certificate, but rather a representation of achievement associated with the learning process and outcomes.

Taking advantage of the digital badge having such a link function, it is possible to use the digital badge as a learning support tool after completion of the education program. Hickey and Soylyu (2012) describe the badge as a valuable tool because it is attached to learning process and outcomes. Because the badge can act like a portfolio, they suggest that the digital badge can be used as a reflection support tool. After completion of the education program, the learner can use the digital badge as an index of learning experiences to help learning reflection, not just as evidence of having completed the program.

A digital badge therefore not only a certificate of completion of an education program or a reward to encourage the extrinsic motivation of the learner. It is also a representation of achievement associated with the learning process and outcomes. In this study, we designed a digital badge as a tool to support the reflection on the basis of this claim.

Design of the Digital Badge

Workshop Learning Process and Outcome

The ID workshop consisted of prior learning phase of one month (online), a face-to-face, one day program and one month post-learning (online) phase. The syllabus of the instructional design workshop is shown in table 1.

Table 1. The syllabus of the instructional design workshop

Item		Description
Program overview		This workshop is intended for those who have mastered the basic knowledge and skills of ID, and can thoroughly carry out the practice of ID applications. It is organized around the work requirements of participants, and aims to consider proposals for improvement of education cases that the participant is actually engaged in.
Learning objectives		Participants can apply ID theory to their education and present proposals for improvement (intellectual skills).
Evaluation method	Criteria for passing	<p>Evaluation of acceptance is the final report. The final report must include the following criteria in order to pass. Acceptance of evaluation and individual feedback for the final report is conducted using the digital badge.</p> <ol style="list-style-type: none"> 1) Things participants want to modify in their education cases in response to feedback from other participants. 2) Things participants want to modify in their education cases and the reasons for it. 3) Ideas for improvement in their education and the reasons for it. 4) Three things learned in the program. 5) A future action plan. 6) Submit an attachment in the form of a worksheet that reflects the prior learning phase
	Prerequisites of the evaluation	<p>The prerequisites for evaluation of prior and post learning phases are as follows:</p> <ol style="list-style-type: none"> 1) Prior learning phase <ul style="list-style-type: none"> • To post a worksheet about the current state of participants' education cases in the online discussion board • To write one or more comments to other participants' posts in the online discussion board • To answer a questionnaire 2) Post learning phase <ul style="list-style-type: none"> • To post a final report in the online discussion board • To write at least one comment in response to other participants' posts in the online discussion board

We designed the digital badge based on this syllabus. The blueprint of the workshop and digital badge is shown in figure 1. The flow of learning was as follows: 1) During the prior learning (online) phase, participants were required to submit a worksheet about a education they engaged in and write at least one comment in response to the other participants' posts and attach a worksheet to the online discussion board in order to clarify the problems they face. 2) In the face-to-face one day workshop, participants discussed the idea of improvement of their education through pair and group work. If they had a question, it was possible to approach the lecturer. 3) During the post-learning (online) phase, participants were required to submit a final report, including a proposal for solving problems of their education, and write at least one comment in response to the other participants' posts in the online discussion forum. The digital badge was linked to these learning processes in both the prior- and post-online learning and learning outcome phases, which comprised the final report. Using the digital badge, participants could get individual feedback for the final report. The individual feedback included information about whether or not they fulfilled the criteria, good points of the reports and positive suggestions for improvement of their proposals. This feedback served to acknowledge their achievement and encourage its further application and use after the program.

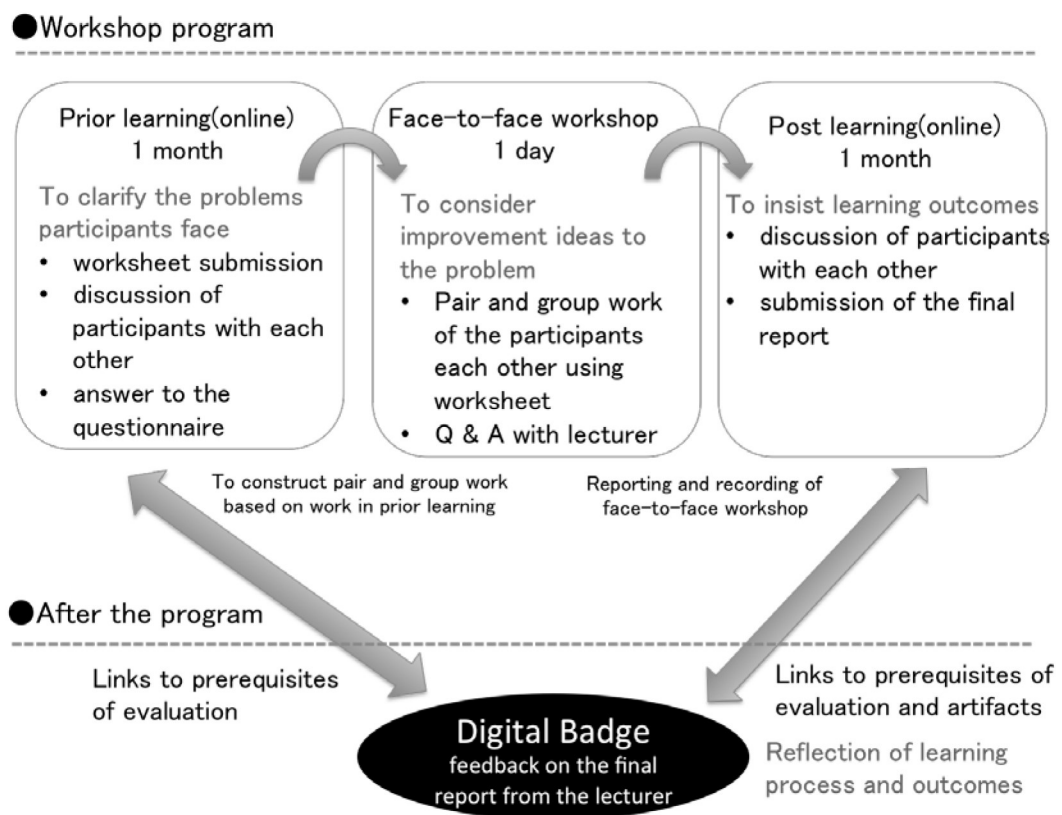


Figure 1. The positioning of the digital badge in the ID workshop

Design of the Digital Badge

The digital badge was developed by combining the standard features of Moodle, an open source LMS (Figures 2 and 3). Specifically, it was issued to participants who met the acceptance of criteria individually using the "course badge" function of Moodle. Furthermore, learning processes and outcomes were linked with the digital badge by pasting a link to a "detailed report" page that listed the learning process and outcomes of the participants in the description of the badge. In addition, individual feedback on the final report from the lecturer was displayed on the detailed information page of badge.



Figure 2. Digital badge icon

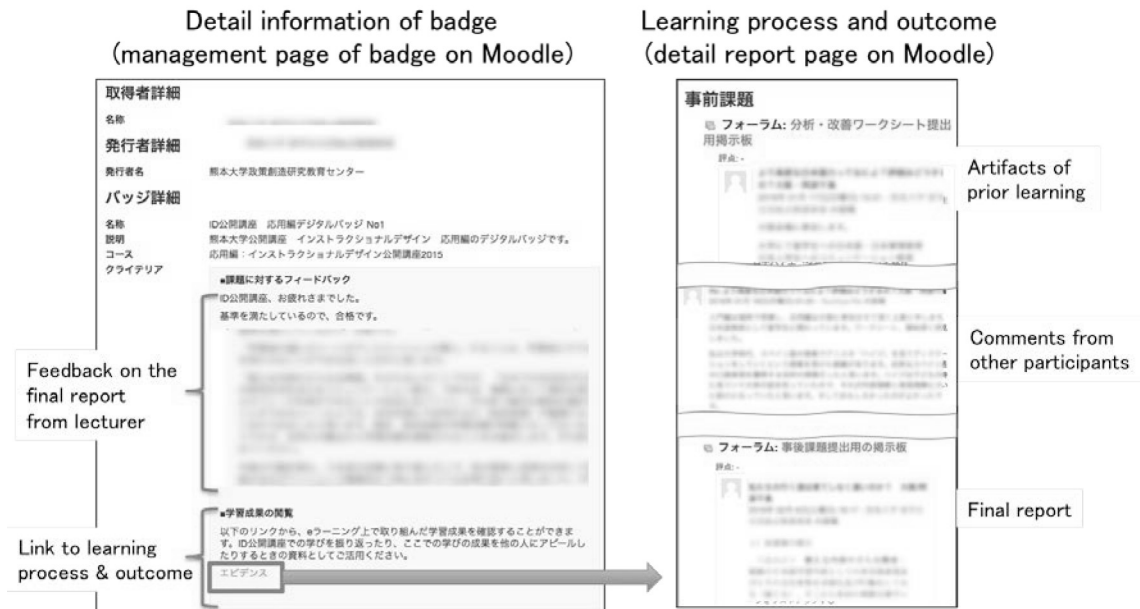


Figure 3. Function of the digital badge using default tools of Moodle

Conclusion

A digital badge is the representation of the accomplishments of learning and a supporting tool for reflection. On the basis of this idea, we reported an overview of the design of a digital badge that was introduced for an ID workshop. A method of designing the digital badge associated with the educational program was presented as a case study. The digital badge was developed using the standard features of Moodle, an open source LMS, which provides the advantage that this technique can be introduced at low cost.

The workshops that introduced the use of a digital badge were held in Tokyo and Osaka during January 2015, with 34 out of 56 participants (61%) acquiring a digital badge. Verifying the effects of the intervention of the digital badge was not conducted however. In future, it would be necessary to evaluate the application and usefulness of the digital badge as a reflection tool. In addition, it seems that it would also be necessary to clarify the reasons why about 40 percent of the participants did not acquire the digital badge. Further investigation at this point is therefore aimed at improving the design of the digital badge and clarifying the reasons for increasing its acquisition by learners.

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