

## The Value of Digital Badges for Learners

~Series: The potential of digital badges from the perspective of instructional design (4) ~

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There is a question that is inevitably asked whenever I give a presentation on digital badges to individuals engaged in educational research and practice: What is the value of digital badges for learning? Since education exists to facilitate learners' learning, it is natural that researchers and practitioners are concerned about the value digital badges hold for learners.

To address this question, this article will explore the value of digital badges for learners by examining previous studies that have investigated the potential applications of digital badges in education. The discussion will be structured around three key aspects:

1. The role of digital badges as a "Currency" that connects skills across different learning contexts, both inside and outside the classroom.
2. The effectiveness of digital badges as a tool to support the learning process.
3. The appeal of the process of earning digital badges.

### **The Role of Digital Badges as a "Currency" that connects skills across different learning contexts, both inside and outside the classroom.**

One of the key attractions of digital badges is their ability to allow learners to appeal their academic achievements to individuals beyond their school community. For example, Killskilla et al. (2023) conducted an interview study with university students who participated in an educational program utilizing digital badges. As a result, the study reports that many students felt they could effectively utilize digital badges in their future job searches. The primary reason cited was that digital badges allow them to present more detailed information about their skills to potential employers, giving them a competitive edge over other candidates.

Additionally, the study reported that digital badges were not only recognized as valuable for job applications but also for accessing new learning opportunities. For

instance, some students expected that if they could document and verify the skills acquired through university-sponsored public courses or seminars, digital badges could serve as proof of eligibility when enrolling in more advanced courses. Others anticipated using digital badges as a means to demonstrate their competencies when applying for a master's program at a different university.

These findings from Killskilla et al. (2023) highlight that students found digital badges particularly appealing because they allowed them to communicate their learning achievements beyond the classroom. As discussed in the third installment of this series, traditional paper-based transcripts primarily indicate a student's grades but provide little information about their actual capabilities. In contrast, digital badges can provide detailed proof of a learner's skills, allowing them to extend the value of their learning beyond the classroom and into society. In this sense, digital badges can be seen as a "currency" that facilitates the transfer of skills acquired in the classroom to real-world applications.

However, Killskilla et al. (2023) also pointed out that the participants in their study were university students who had high confidence in using digital technology and were open to adopting new tools such as digital badges. As a result, there is a strong possibility that these students were early adopters—those with a high level of interest in emerging technologies and products. This suggests that the perceived value of digital badges as a "currency" for transferring skills may not necessarily apply to all learners. At present, this aspect of digital badges remains a potential value rather than an established one.

### **The Effectiveness of Digital Badges as a Tool to Support the Learning Process**

Digital badges also serve as a tool to support learning itself. Zhang and West (2023) examined the effectiveness of digital badges by integrating them into an educational program that taught university students how to use software for photo editing and other applications. In this program, students learned how to operate the software and applied their knowledge to complete project-based assignments. Instructors evaluated the quality of students' submissions, and if they met the required standards, digital badges were awarded. A total of 36 project assignments were available, and students could choose which ones to undertake. Upon successfully completing each project, they earned a digital badge corresponding to that specific theme. A survey and interview study conducted with the students revealed that digital badges helped them better understand what skills they had mastered and

which areas still needed improvement, making it easier to manage their own learning progress. Additionally, digital badges were positively evaluated for their role in clarifying learning goals and structuring the learning process by providing clear milestones.

The idea that digital badges effectively support students in goal setting has been noted in other studies as well. Cheng et al. (2018) conducted a theoretical examination of how digital badges contribute to goal setting in learning, drawing on self-determination theory and achievement goal theory. Furthermore, these researchers later applied their theoretical findings in practice and empirically demonstrated that digital badges encouraged self-directed learning towards goal achievement (Cheng et al., 2020). In this study, the practical application involved a 16-week course designed for university students in a teacher training program, focusing on effectively integrating technology into classroom instruction. Students were required to participate in case studies during in-person sessions, engage in online discussions, complete quizzes, and pass a final exam. In addition, they had to obtain eight digital badges as proof of their acquired skills. Four of these badges were mandatory, covering fundamental skills such as information literacy. The remaining four were elective, chosen from a pool of 24 digital badges related to various technological tools, such as video creation and audio editing. Instead of simply awarding badges for watching instructional videos, students were required to apply the tools in practice and submit a reflective essay. TAs rigorously evaluated these submissions based on pre-defined success criteria before issuing the badges. The study reported that this structured approach to digital badge implementation helped students connect their personal interests and needs with the course's learning objectives, making them more motivated and engaged in achieving their goals.

These empirical studies suggest that digital badges are not only beneficial for appealing skills but also serve as a valuable tool for guiding learners through the learning process. While this function of digital badges is actively discussed in academic research within the field of educational technology, it remains relatively unknown to the public as a key value of digital badges.

### **The Appeal of the Process of Earning Digital Badges**

The process of earning digital badges itself is also appealing. In particular, previous studies have demonstrated that it contributes to enhancing self-efficacy. Self-efficacy refers to a learner's perception of how capable they believe they are in

completing a specific task and is one of the key factors influencing learning success. Hodges and Harris (2017) conducted a review of prior studies on educational practices utilizing digital badges and examined their impact on learners' self-efficacy. Their findings indicate that the process of earning a digital badge—where learners clearly recognize their learning goals, work towards meeting them, and receive a badge as proof of their achievement—acts as a form of feedback that reinforces a positive perception of one's abilities. This, in turn, helps develop a sense of self-efficacy.

In fact, Cheng et al. (2023) introduced digital badges into a teacher education program on educational technology and examined how self-efficacy scores differed between students in programs with and without digital badges. The results revealed that self-efficacy scores of students who participated in the program with digital badges were higher with statistically significant differences. Like Hodges and Harris (2017), the authors interpreted these results as evidence that the feedback mechanism of earning badges—where students work through challenges and receive positive reinforcement in the form of badges—contributed to strengthening learners' self-efficacy.

A review of these studies suggests that digital badges not only support the learning process but also enhance learners' self-efficacy through the experience of earning them. This indicates that the process of obtaining digital badges itself can be considered both appealing and valuable for learners.

### **How to Communicate the Value of Digital Badges to Learners**

There is a common saying: "dangling a carrot in front of a horse." Similarly, digital badges are often treated as a means to drive learning—essentially functioning as a tool for extrinsic motivation. However, research has shown that if learners perceive digital badges merely as a reward, it can sometimes have negative effects on their motivation. In particular, for learners who are already highly motivated, presenting digital badges as a tool for external incentives can be counterproductive. Abramovich et al. (2013) suggests that when such learners feel that badges are being used as a "prize" for their efforts, it can actually undermine their intrinsic motivation. They may react negatively, thinking, "I didn't study hard just to get a reward."

As discussed throughout this article, digital badges hold a variety of values beyond

extrinsic motivation. Rather than framing them solely as incentives, we should consider exploring and emphasizing their broader benefits for learners.

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