

Integrating Digital Badges into Canvas to Promote Student Success

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Abstract

Imagine getting rewarded with a badge every time you unlock a new skill in class, just like leveling up in a video game. In this paper, I will be discussing the use of digital badges in classrooms, with a focus on how they can be used with Canvas to promote student engagement, self-monitoring, accountability, positive behavior, and a sense of community. I will also examine the potential benefits and challenges associated with the implementation of digital badges by reviewing existing literature on the subject, presenting data and observations from my own experience, and providing a plan for implementation.

Introduction

Introduction Video

Gamification is an educational approach used to enhance learning and engagement by integrating game design elements into non-game contexts such as classrooms. According to Chapman and Rich (2018), gamification does not mean turning assignments into games but rather extracting the motivational principles from games and applying them as a layer of interaction to nongame environments. One of the ways that gamification is changing the way learners engage with learning in educational and professional settings is with digital badges. Digital badges are not just virtual awards but are indicators of achievement, skill mastery, participation, and engagement. Learning Management Systems (LMS) like Canvas provide an innovative platform for educators to seamlessly integrate digital badges into their curriculum to enhance the learning experience for all learners. This gamification element not only motivates learners by providing rewards for their efforts, but it also helps them visualize their learning

pathways, making educational goals more tangible and attainable and promoting positive behavior. As students engage with various courses and activities, earning badges along the way is a continuous source of encouragement and recognition, promoting a sense of accomplishment and self-efficacy (Chapman & Rich, 2018).

Literature Review

Gamification for Learning

Keeping students engaged and motivated in their education is becoming more and more challenging. Today's educators must compete with student's personal devices for their attention in the classroom. In the US, the proportion of young people between the ages of 13 and 17 years who have a smartphone has reached 89%, more than doubling over a 6-year period; moreover, 70% of teenagers use social media multiple times per day, up from a third of teens in 2012 (Abi-Jaoude, E., Naylor, K. T., et al., 2020). The gamification of learning is a newer idea that has shown promising results in educational settings. With the increase of technology resources for educators post-COVID, there is a lot of buzz around the gamification of learning for all age groups, from K-12 to higher education institutions. The demand for digitally rich learning environments and pedagogically sound learning experiences will continue to increase, and those institutions investing in learning designers and instructional designers will be better positioned to create rigorous, high-quality programming that serves the needs of all learners (Alexander, B., Ashford-Rowe, K., et al., 2019).

Gamification for Social-Emotional Learning

Education isn't just about learning academics and mastering content, but also about teaching life skills that include social and emotional aspects. Programs focused on Social Emotional Learning (SEL) are becoming more common and are aimed at preparing students to handle real-life issues that go beyond mastering learning objectives. SEL strategies include learning how to adapt to changes that will arise in their lives, being mindful of others, and taking care of their mental health. Positive Behavioral Interventions and Support (PBIS) implementation is making schools nicer places to be, where positive behavior is the norm. Creating a positive school climate is widely recognized as an essential part of promoting an effective learning environment (Elrod, B. G., Rice, K. G., et al., 2022). Being proactive about these issues with students, especially those from less privileged backgrounds or who face more adversity, can keep them from dropping out of school. By spotting students who might need extra help early on and providing a rapid response, the goal is to lower dropout rates. Together, these efforts are all about making learning more relevant, fun, inclusive, and supportive for every student, setting them up for success in “the real world”.

Problems to be Addressed

Many institutions are facing challenges when it comes to implementing and evaluating open badges in higher education (Westerberg, T. J. 2023). Some have successfully integrated a digital badge system, while others remain hesitant. It's essential to understand that digital badges are not a fix-all solution to the problems we currently face in our education system, but they are a good starting point. It's crucial for educators to use the system consistently so that students can track their progress and accomplishments.

Additionally, it's significant to ensure that all students have equal access to technological resources. The effectiveness of school-wide initiatives like gamification and digital badging means every student has the same opportunity to engage with these tools. If students lack access to the necessary technology, such as computers and internet access, there's a risk of widening the gap between those who have these resources at home and those who do not. Implementing such systems should go hand in hand with initiatives aimed at bridging technology gaps, such as a 1:1 device-to-student ratio. The ultimate goal is to use these advancements not only to make learning more engaging and relevant but also to support the success of every student, regardless of their socio-economic background.

Technologies to be Incorporated

Some technological components must be incorporated to effectively implement digital badges in the classroom or across a campus. The first is a learning management system (LMS) capable of issuing and managing badges, such as Canvas. Reliable internet access is required to ensure that both instructors and students can access the badge platform. Schools must provide training for educators on how to use the badge system effectively, which could require additional software for creating instructional materials. Additionally, everyone involved will need access to compatible devices such as computers or tablets. Finally, data privacy and security are important, so secure servers and compliance with educational data protection standards are vital to protect student information. A digital footprint is composed of the traces of information left on the internet after a user goes to any website or uses any app. While a user may deliberately give away some personal information, for example, when signing up for an account, other information can be collected passively without the user's knowledge (Leatham, H., & Robertson, L., 2017). All the above-mentioned components and safety nets form the backbone of a digital badge

system, enabling schools to motivate students, recognize their achievements, and provide a tangible record of their skills and accomplishments.

Timeline and Resources

Preparation

To apply a system that tracks academic achievements and social-emotional learning (SEL) progress, a structured approach is necessary. This approach should be divided into distinct phases, each supported by specific resources. The process should begin with a preparation phase that lasts between one to two months. During this initial stage, it is critical to lay the groundwork by developing a detailed implementation plan, selecting, and training staff on using badges and tracking tools, and establishing a baseline for student achievement and SEL competencies. In a K-12 setting, this could be done in the summer months leading up to the new school year when professional development takes place. The main goal is to ensure a smooth transition into the new system, with all stakeholders fully informed and equipped to participate effectively. In my experience implementing badges into my curriculum, it took six weeks to learn the integration process into Canvas, design badges and decide which skills students would get badges for (see Figure 1).

Figure 1

Badge Setup for Grading Period 1 and 2 (Teacher Side)

Sort ^	Name	Requirement	
	Atomic Structure	Passed Atomic Structure Test	
	Fukushima	Participated in Fukushima Project	
	Light Manipulator	DIY Spectrometer	
	Wave Master	Passed the Electrons and Light Test	
	Creator	Created a Gimkit Game Level 1	
	Trending	Passed Periodic Table and Trends Test	
	The G.O.A.T	Passed DCA	
	Compound Master	Completed Ionic and Covalent Bonds Gizmo	
	Creator 2	Completed second Gimkit Game and Kit	
	On-Time	No Missing Assignments	

Implementation

After the preparation phase, the implementation phase begins, which lasts from the third month until the end of the school year. During this time, the focus is on practically applying the system, such as issuing badges for academic and SEL milestones, integrating data tracking into daily teaching practices, and using this data to provide customized support to each student. Figure 2 shows the students' views before and after they earn badges. This phase requires a collaborative effort among educators to monitor progress, identify challenges, and adjust. Regular discussions and reviews are essential to ensure that the tracking system effectively contributes to student growth and well-being. In this phase, it is also important to note the behavior changes one may notice as the badge system is being implemented and possibly roll out surveys to teachers and students. In my experience, I have seen the amount number of students who earn all badges increase in the 3 grading periods that have offered the badges (see Table 1), this is a direct correlation with their overall class grades.

Figure 2

Student View Before and After Earning Badges

Before














































































After



Table 1

Number of students who earned all badges across three grading periods.

Grading Period 2 (1 Student)	Grading Period 3 (5 Students)	Grading Period 4 (9 Students)
<div></div>	<div></div> <div></div> <div></div> <div></div> <div></div>	<div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>

*Each set of badges represents one student

Resources

To successfully implement this idea, educators must receive professional development to become proficient in using these tools. It is important to secure appropriate curriculum materials that support both academic and SEL goals, which can be adapted based on ongoing data analysis.

Assessment of Impact

Evaluation

After a year of implementing the program, the evaluation phase begins at the end of the school year and through the summer months (months 12-24). This crucial stage involves a thorough analysis of the collected data to assess its impact on students' academic and social-emotional learning (SEL) development. The insights gained from this review will inform future strategies, helping to refine and improve the system. It's important to note that SEL development is an ongoing journey, with data continuously available to educators to support a consistent learning environment.

Summary

In this paper, I explore the use of gamification aspects, such as digital badges, to make learning more engaging and rewarding for students who are using a learning management system (LMS) like Canvas. Digital badges are earned by students for mastering new skills or achieving certain milestones, with the aim of increasing their interest and motivation in their studies. I also discuss the challenges that teachers face in keeping students focused in an age of constant distractions. Using digital badges is a smart way to help students pay more attention and feel

good about their progress. This paper also highlights the importance of teaching not just academic subjects but social-emotional learning as well. To ensure that digital badges work well, I outline a plan that includes setting up the necessary infrastructure, starting to use the badges, and assessing their effectiveness. This plan requires the right technology, training for teachers, and additional staff to support the initiative. Ultimately, our goal is to make learning more interactive and enjoyable, which can lead to better academic and behavioral performance and overall success in life.

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