Level Up: Using Digital Badges and Gamification Strategies to Increase Student Engagement and Achievement

Neil J. Rigole
Middle Georgia State University, neil.rigole@mga.edu

Author Biography

Dr. Neil Rigole has decades worth of instructional technology, online learning, and information technology experience teaching and leading initiatives and programs in higher-ed, K12, and adult/technical education. He is currently an Associate Professor in the School of Computing at Middle Georgia State University where he is the Coordinator for the Masters of Science in Information Technology program. He has also been named a USG Chancellor's Learning Scholar for the 2019/2020 academic year.

Introduction

Motivation is a key factor behind what drives a person to complete an activity, whether that motivation is intrinsic or extrinsic. Digital badges can serve as motivators and they are being utilized by a variety of social media, entertainment, educational platforms, and health activity trackers to reward the user for their achievements and involvement in an activity. They are useful in not only helping to motivate a learner, but can also promote an atmosphere of valued learning. Digital badges can also be a way for the learner to showcase their skills and achievements while also encouraging the learner to gain more knowledge as they advance forward in the learning process. Digital badges and gamification strategies can be integrated into coursework to ensure enhanced engagement and motivation to increase student learning and achievement in online and traditional face-to-face learning environments.

Structure of the Activity

For my classes in Interactive Digital Media, digital badges are awarded through the D2L Brightspace Learning Management System for project-based assignments (not for assignments such as quizzes or traditional discussion posts). The badges were created through the Digital Badge Designer (http://openbadges.me), which is accessible via Brightspace as well as with Adobe Photoshop. Each badge represents a significant milestone for the course in projects related to the course content.
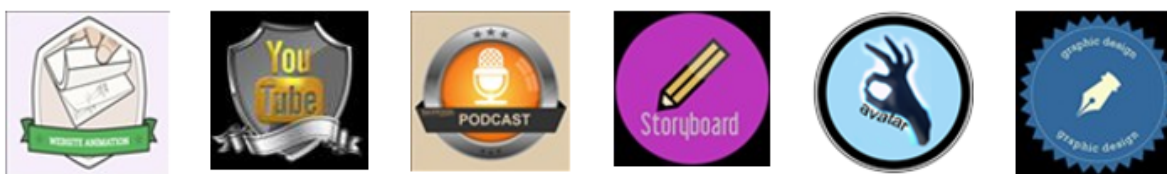

Figure 1: Examples of Project Badges

I also provide a total of six "Level Up!" badge opportunities with each counting as an additional point added to the student's final grade (for a possible additional six points). Together, these six "Level Ups!" theoretically may allow a student to move up one letter grade (i.e. B to an A, or C to a B).

Figure 2: Examples of Level-Up Badges

The badges are awarded manually after successfully completing a designated assignment. While all of the "Level Ups" are optional and voluntary, the other badges incorporated into the course are considered additional "rewards" for obtaining an excellent grade (80% or above) on one of the seminal projects for the course. By awarding both optional and non-optional badges, all students in my course can earn badges and take part in the "gamification" of the course. The gamification strategies employed include the use of a "leaderboard" which identify the top badge earners in each section, as well as the addition of the "Level Up!" badges that allow students to earn extra credit on their final grade for the course. A leaderboard is posted on the course homepage that shows the top badge earners for a given week.

Student Results and Feedback

In the initial pilot of these strategies, 35% of the students increased their achievement in the course, with achievement being defined by the individual student's end of course grade. It is interesting to note that the majority of the students with a grade change (19%) moved from a B to an A, yet two students were able to increase a D to a C and one student managed to earn a passing grade of D from an F. Other results include:

- Increased participation in course activities, which is a sign of increased engagement.
- Improved success rates and overall grade average for the classes.
- Positive student responses that show it made their course experience more enjoyable. As one student noted when a badge was received:
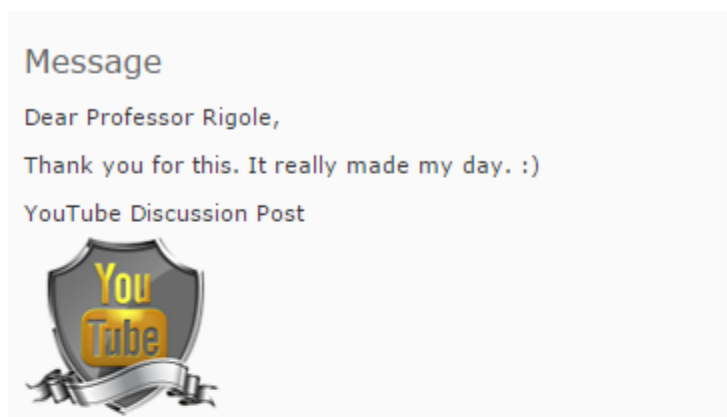
Other responses include:

> *This is one of the best classes I have taken so far. I LOVE the software I downloaded, and I whiz around doing stuff I never thought I could do with animation, pictures, videos and presentations. Professor Rigole explains everything thoroughly and makes the class interesting with badges and extra credit.*

> *Absolutely loved this class. It has been very fun and taught me a lot about an interesting field I would have never known about otherwise.*

> *I love it when instructors give me something fun, interesting, and unique as an assignment. Your assignments were engaging and dynamic. I really hate doing the typical essay (not every student is a gifted writer) so being able to create something as an assignment is a welcome change.*

> *I love how all of my assignments receive a personalized review, I love how you know just the right amount of work to issue and I love how your assignments are unique.*

There is a need for methods and technology in our courses to further motivate our learners, as these students are technology savvy and expect to be engaged. Incorporating gamification strategies such as digital badges can engage and motivate our students, which can increase student learning and achievement while also supporting retention, progression and increased graduation rates.