

Caring by Enhancing Online Principal Preparation Students' Well-Being through Gamification

Stephanie Atchley, Ed.D.

Tarleton State University

Sharon Ross, Ed.D.

East Texas A&M University

Abstract

This article presents findings from a mixed-methods study investigating the incorporation of Badges, a gamification element, within Canvas modules in an online principal certification program. Drawing upon the framework of gamification in education, the study examines graduate students' perceptions of Badges' impact on motivation, engagement, and well-being. Results indicate a predominantly positive perception towards Badges, highlighting their role in promoting engagement, providing instant feedback, fostering camaraderie, and a sense of connectedness among peers. The article concludes with implications for practice and suggestions for future research in leveraging gamification to support graduate students' well-being in online educator preparation programs.

Keywords: Principal Preparation, Online Learning, Well-Being, Connectedness, Gamification,

In the ever-evolving landscape of education, the integration of innovative strategies is paramount to engage and motivate learners effectively. Alabassi (2017) indicated that online learning can be associated with feeling lonely and socially disconnected. One such strategy that can be utilized to potentially overcome these negative feelings is the use of gamification. Gamification has garnered attention for its potential to enhance motivation and learning outcomes (Gallardo, 2018). Gamification involves applying game design elements in non-game contexts to increase participation and engagement (Deterding et al., 2011). Within the realm of education, gamification holds promise for fostering intrinsic motivation, promoting active learning, and facilitating skill acquisition (Alabassi, 2017;

Deterding et al., 2011; Werbach & Hunter, 2012). Further, Uanhoro and Young (2022) posit educators in principal preparation and other education preparation programs can use the influence of gamification to enhance achievement and a sense of accomplishment at the undergraduate and graduate levels, thus improving the experience of graduate students which shows a level of understanding and care from the professor's perspective. Additionally, the graduate students entering principal preparation programs are stressed by the demands of teaching. Toney et. al, 2023, reported close to 50% of teachers are considering leaving the field prior to retirement; therefore, our goal is to motivate those who are staying in the field to improve outcomes for all.

This study explores the integration of Badges, a gamification element, in online course modules within the Canvas learning management system.

Guiding Questions

1. What are the positive effects of incorporating Badges in Canvas modules?
2. What is the psychological impact of using Badges in Canvas modules?
3. What are the positive effects of instant feedback that the game element provides?
4. What is the cognitive impact of using Badges in Canvas modules?
5. What learning habits developed as a result of incorporating gamification?
6. What negative effects resulted from including gamification in Canvas modules?

Review of the Literature

A strategy used to engage university-level students is gamification through implementing Badges (Tahir, F., Mitrovic, A., and Sotardi, V. 2022). Previous research has shown that integrating gamification elements, such as Badges, in online learning environments can enhance student engagement, satisfaction, and knowledge acquisition (Urh et al., 2015). Tsai (2013) highlights the increasing prevalence of learning through gaming technology and its positive impact on learners' motivation and engagement. However, the psychological and cognitive effects of incorporating Badges in Canvas modules, as well as the development of learning habits through gamification, warrant further investigation.

Tahir et al., (2022) posits that game-based learning increased one's motivation and was essential in the advancement of student's monitoring themselves, solving problems and making decisions. The process, while in use, is an encouragement causing graduate students to seek deeper knowledge and meaning, and to reflect on their activities; thus, students are more engaged thereby increasing joy and motivation.

An example of badge implementation shared by Tahir et al. is when the purpose of the badge early in the lesson is used to grab the attention of the student, which is considered a primary badge. A second type of badge is

considered classic because the practice to obtain the lesson must occur over time rather than be used primarily as an attention-getter. The third badge shared by Tahir et al., is called an elite badge, designed to continuously engage students in learning over longer periods of time. Tahir et al. found the badges influenced some students to spend more time on tasks while others reported not being motivated by the design of the badge or its use. The evaluation scores regarding topic interest showed students valued the engagement within the course.

An AERA paper presentation confirmed the effects of badges on learning including increases in motivation, engagement, and perception, as reported by Li, C., and Fryer, L.K. (2024). Their review concluded that the use of badges caused mixed results, and not all were positive. Some students reported having no positive effects when using badges, while others indicated using badges did contribute to increases in their behavior toward assignments, motivation, and engagement during application of lesson modules.

Interestingly, from the teachers' perspective, the use of badges was included as a learning outcome to make online classrooms interesting and attractive in addition to other learning outcomes, according to Wolfenden, F., Adinolfi, L., and Cross, S. (2020) in a case study conducted during a teacher workshop. The authors noted the process to be helpful for individual teachers in recognizing the components of quality teaching. In the conclusions, Wolfenden, et al. maintain there was a huge amount of excitement for learning and using badges to improve their practice and offer a better learning environment for students but noted further consideration was needed for teachers because the success of badges in the classrooms was dependent upon teacher quality.

Teachers in educator preparation programs care about motivating and engaging students in the lessons and are becoming increasingly experienced with the gamification in university classrooms. When given opportunities in the learning modules, graduate students attempt to earn badges.

Methodology

Participants in this study were 33 graduate students enrolled in an online principal certification program at a mid-size, comprehensive Texas university. The principal

investigator received permission to use a survey instrument developed by Alabbasi (2017). The survey instrument consists of 31 items on a five-point Likert scale ranging from strongly agree to strongly disagree, as well as two qualitative questions. For this study, the categories of Strongly Agree and Agree were grouped as Agree and the categories of Strongly Disagree and Disagree were grouped as Disagree. The survey was administered over a two-week period to collect data on principal preparation students' perceptions of Badges in online learning.

The survey included six sections to address each guiding question. The first construct examined the positive effects of incorporating Badges in a learning management system with three items; the second construct targeted the Psychological effects of incorporating Badges and included eight items; Positive effects of instant feedback were addressed in the third construct with three items; Cognitive effects of incorporating Badges included four items; The fifth construct examined the formation of good learning habits with eight items; and the sixth construct focused on the negative effects of incorporating Badges with five items. Two qualitative questions were added to the survey to gain insight into students' lived experiences. Data analysis included calculating percentages and using pie charts to summarize results. Albassi (2017) previously determined that the survey instrument was highly reliable ($\alpha = .89$), ensuring the validity of the findings.

Results

The results of the first construct (the perceived positive effects of incorporating Badges) demonstrated

46% of graduate students agreed with this construct, 22% disagreed, and 32% were neutral (neither agree nor disagree) perception (Figure 1). The results for the second construct (the perceived psychological effects of incorporating Badges) showed 42% of graduate students were in agreement and 16% disagreed. In this section, 42% had a neutral perception of psychological effects (Figure 2). The results of the third construct (the perceived possible effects of the instant feedback) showed a 66% of the participants were in agreement and 23% selected a neutral response. A small percentage (11%) indicated disagreement (Figure 3). For the fourth construct (Cognitive Effects of Incorporating Badges), 50% of students agreed that using Badges supported cognitive development, while 33% of students remained neutral. Students disagreeing with this construct accounted for 17% (Figure 4). The fifth construct examined the formation of good learning habits. The results of this construct demonstrated that 46% of students felt they developed better learning habits with the incorporation of Badges in their online course modules, while 34% remained neutral and 20% were not in agreement (Figure 5). The sixth construct focused on the negative effects of incorporating Badges in online course modules. The majority of students (68%) indicated that they did not experience a negative effect, 27% indicated a neutral response and only 5% of the students felt a negative effect from the incorporation of Badges in online course modules (Figure 6).

Figure 1

POSITIVE EFFECTS OF INCORPORATING BADGES

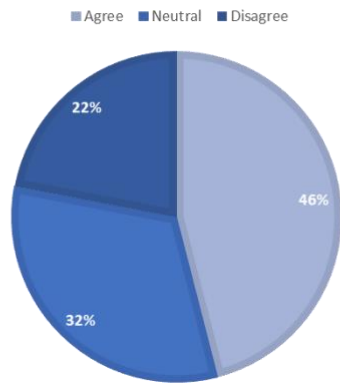


Figure 2

PSYCHOLOGICAL EFFECTS OF INCORPORATING BADGES

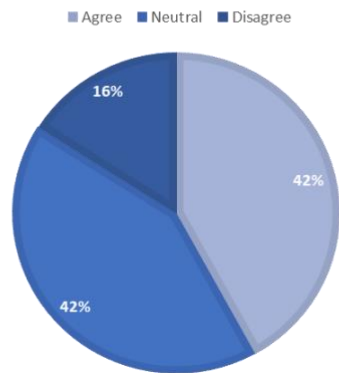


Figure 3

POSITIVE EFFECTS OF INSTANT FEEDBACK

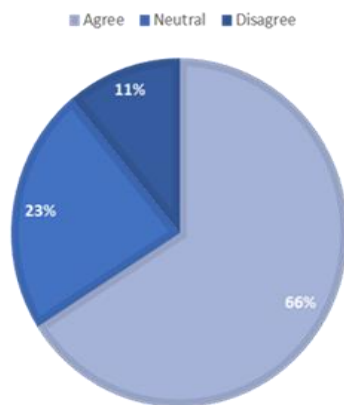


Figure 4

COGNITIVE EFFECTS OF INCORPORATING BADGES

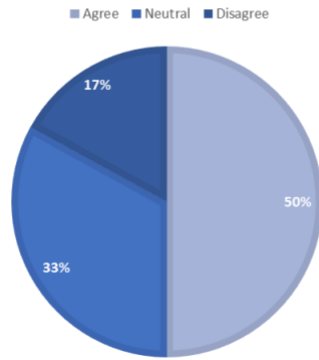


Figure 5

FORMATION OF GOOD LEARNING HABITS

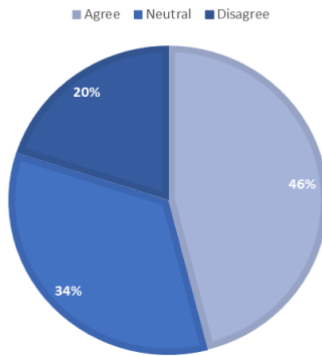
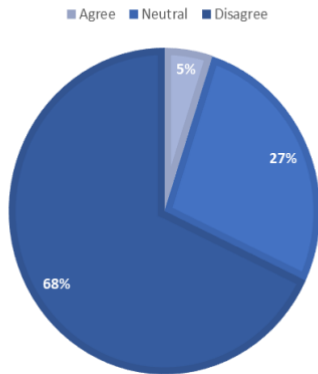


Figure 6

NEGATIVE EFFECTS OF INCORPORATING BADGES



Student responses from the qualitative portion of the survey included:

“It keeps the learning entertaining and fun...”

“It allows for a friendly, fun competition among peers...”

“Badges encouraged me to learn the content more in-depth...”

“I felt like it brought me closer to my peers...”

“I was at the top of the Leaderboard...”

“I feel it helps create a less stressful environment and helps to create a more engaging environment...”

The results showed a positive perception toward using gamification tools in online learning among graduate students. Students felt that the gaming elements promoted attentiveness, connectedness, and a sense of belonging.

Discussion

The results of this mixed-methods study highlight principal preparation graduate students' perceptions regarding the incorporation of Badges within online course modules, encompassing various constructs related to positive and negative effects, as well as psychological and cognitive impacts. These findings offer valuable insights into the effectiveness of gamification elements in enhancing the online learning experience to promote student well-being.

Perceived Positive Effects: The first construct examined the perceived positive effects of incorporating Badges, revealing a notable percentage (78%) of students who agreed or remained neutral regarding the benefits. This suggests a generally favorable perception towards the use of Badges in online learning. The positive response indicates that Badges may serve as effective motivators, encouraging students to engage more deeply with course content and fostering a sense of accomplishment.

Psychological Effects: The second construct focused on the psychological effects of incorporating Badges, with 42% of students agreeing that they experienced a positive impact. However, a small portion (16%) expressed disagreement, while 42% remained neutral. This suggests a more mixed perception regarding the psychological effects of Badges. Further exploration is warranted to understand the underlying factors contributing

to these varied responses and to address any potential concerns.

Instant Feedback: The third construct examined the perceived effects of instant feedback provided by Badges, revealing a high percentage (66%) of agreement among students. This indicates that instant feedback is widely perceived as a valuable aspect of gamified learning experiences. The positive response underscores the importance of timely and informative feedback in promoting student engagement and learning outcomes.

Cognitive Effects: Regarding the cognitive effects of incorporating Badges, half of the students (50%) agreed that Badges supported their cognitive development. However, a significant proportion (33%) remained neutral, while 17% disagreed. This suggests that while some students recognize the cognitive benefits of gamification, others may be less convinced or require further evidence to support this notion.

Formation of Learning Habits: The fifth construct focused on the formation of good learning habits through the incorporation of Badges, revealing that nearly half of the students (46%) felt they developed better learning habits. This positive response highlights the potential of gamification to cultivate desirable learning behaviors and promote self-regulated learning strategies among students.

Negative Effects: Finally, the sixth construct explored the negative effects of incorporating Badges, with only a small percentage (5%) of students reporting negative experiences. The majority (68%) indicated no negative effects, while 27% remained neutral. This suggests that concerns or drawbacks associated with gamification in online learning are relatively minimal among the study participants.

The qualitative data gathered from student responses provides valuable insights into the subjective experiences and perceptions of incorporating Badges within online course modules. These responses offer nuanced perspectives on the impact of gamification elements on student engagement, motivation, and learning outcomes.

Enhanced Engagement and Enjoyment: Several students expressed that Badges contribute to making the learning process more enjoyable and entertaining. Phrases such as "it keeps the learning entertaining and fun" and "it allows for a friendly, fun competition among peers"

highlight the role of gamification in fostering a positive and engaging learning environment. By introducing elements of competition and achievement, Badges capture students' interest and motivate them to actively participate in learning activities.

Promotion of Deeper Learning: Moreover, student responses indicate that Badges serve as effective incentives for promoting deeper engagement with course content. Students reported that Badges encouraged them to delve more deeply into the material, suggesting that gamification elements can stimulate intrinsic motivation and promote active learning strategies. The statement "Badges encouraged me to learn the content more in-depth" highlights the potential of gamification to enhance students' understanding and retention of course material.

Social Cohesion and Collaboration: Interestingly, some students mentioned that Badges facilitated social connections and camaraderie among peers. The statement "I felt like it brought me closer to my peers" suggests that gamification elements can foster a sense of community and collaboration within online learning environments. By providing opportunities for students to interact, compete, and celebrate achievements together, Badges contribute to building a supportive and cohesive learning community.

Positive Impact on Stress Levels: Additionally, student responses indicate that the incorporation of Badges may contribute to reducing stress levels and creating a more engaging learning environment. The statement "I feel it helps create a less stressful environment and helps to create a more engaging environment" suggests that gamification elements can alleviate academic pressure and promote a sense of enjoyment and accomplishment. By introducing elements of fun and reward, Badges create a positive and supportive atmosphere conducive to effective learning experiences.

Sense of Achievement and Recognition: Finally, student responses highlight the importance of recognition and achievement in motivating student behavior. The statement "I was at the top of the leaderboard" reflects the significance students attribute to earning Badges and achieving success within the gamified learning environment. By providing visible markers of progress and accomplishment, Badges reinforce students' sense of achievement and incentivize continued effort and participation.

The qualitative data from student responses offer compelling evidence of the positive impact of incorporating Badges within online course modules. These responses demonstrate the benefits of gamification in promoting engagement, fostering deeper learning, building social connections, reducing stress, and fostering a sense of achievement. Educators can leverage these insights to design and implement effective gamification strategies that enhance student motivation, participation, and learning outcomes in online education.

Limitations

The sample size was relatively small, limiting the generalizability of the findings. Additionally, the study focused solely on graduate students in a principal certification program, warranting caution in extrapolating the results to other educational contexts or learner populations. Future research should explore the effectiveness of gamification strategies across diverse educational settings and investigate potential factors influencing students' perceptions and experiences.

Recommendations

From the results of the study and literature review, the authors recommend the integration of Badges and other gamification tools to enhance motivation that embodies the sense of caring for the emotional well-being and engagement in online classrooms. The implementation of Badges has the potential to benefit teacher and superintendent program candidates. Professors care that students are engaged and motivated to learn. Not all students will be extrinsically motivated by the systems integrated; however, the research has shown from this study the need to continue providing engagement strategies. Another recommendation would be to consider the teacher's quality and skill set prior to engaging in gamification professional development.

Conclusion

The findings of this study provide valuable insights into the potential of gamification, particularly the integration of Badges, to enhance motivation, engagement, and student well-being in online principal preparation programs. Through a mixed-methods approach, this research explored graduate students' perceptions of Badges within Canvas modules, shedding light on various

constructs related to positive and negative effects, as well as psychological and cognitive impacts.

Overall, the results indicate a predominantly positive perception towards Badges, with students highlighting their role in promoting engagement, providing instant feedback, fostering camaraderie, and enhancing the learning experience. Quantitative analysis revealed high percentages of agreement across multiple constructs, demonstrating the efficacy of gamification elements in online education. Qualitative data further supported these findings, emphasizing the enjoyable, competitive, and socially enriching aspects of incorporating Badges.

The integration of Badges within Canvas modules offers a promising avenue for enhancing student well-being and engagement in online principal preparation programs. By leveraging gamification strategies, educators can create dynamic and interactive learning environments that stimulate intrinsic motivation, promote active learning, and foster social connections among students. The positive impact of Badges on reducing stress levels, promoting deeper learning, and fostering a sense of achievement underscores their value in supporting student well-being in online education.

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