

## *Using gamification to teach and engage students in the act of summary writing*

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### ABSTRACT

This study uses the concept of gamification to engage first-year students in the act of summary writing. The researcher argues that writing instructors should consider ways to gamify concepts in their curriculum to bring novelty and active involvement to course materials. The researcher uses Robson et al.'s (2015) mechanics, dynamics, and emotions framework and Groh's (2012) principles of relatedness, competence, and autonomy to explain and justify the integration of gamification to the summary genre. Of the typical gaming elements used in gamification, the researcher relies on the uses of digital badges as a motivator and as a sign of credentials for students. Using data from 17 students, 88.2% strived to earn the badges. The survey revealed that 64.7% found the use of badges to be one of the driving forces behind their understanding of the summary conventions, and 47% believed the use of gamification helped them write better summaries overall.

**Keywords:** *gamification, digital badges, motivation, summary, writing.*

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## INTRODUCTION

Many of our everyday activities involve some type of game play: moving up in the class ranking system, earning badges for completing various exercises, achieving points for eating at restaurants, or getting frequent-flyer miles with an airline. People are increasingly motivated to participate in certain activities when they are rewarded for their actions – something corporations are acutely aware of (Pew Research Center, 2012). These kinds of activities, while not necessarily a game in a traditional sense (e.g., board games or video games), have many of the basic building blocks of traditional games – rules, points, badges, leaderboards, avatars, etc. In a non-game context, this kind of engagement is known as gamification. Gamification can be broadly defined as “the use of game elements and game design techniques in non-game contexts” (Flores, 2015, p. 38). In other words, to be classified as gamification, the activity at hand must use gaming techniques (Bruder, 2014, p. 56) to transform the activity into generating a more game-like experience (Deterding et al., 2011). The idea of gamification has been gaining traction since the early 2010s in several industries (Deterding et al., 2011), one of which is the education sector. Educators have been taking advantage of what gamification has to offer students because one of the major objectives of gamification is to increase users’ engagement and motivation (Hitchens & Tulloch, 2018), two variables that play crucial roles in students’ learning (Saeed & Zyngier, 2012).

The Pew Research Center conducted a survey to assess whether gamification will be implemented in people’s digital lives by 2020, and the survey found that 53% of respondents believed that there will be major adoption of gamification in the coming future (2012). Corporations, in fact, are some of the major drivers of gamification for training and wellness initiatives (Pew Research Center, 2012). Today, gamification is used to improve businesses (Ahmadi, 2020), incentivize sales representatives (Wozniak, 2020), and improve recruitment strategies (Kirovska et al., 2020). The application of gamification is not only useful for businesses (via the uses of loyalty programs, skill-based learning, etc.) but also is useful for colleges. Research studies have shown that gamification can benefit students’ learning in many ways. Studies have shown that the use of gamification can teach students about scientific writing (Gibbins et al., 2015), creative writing (Jackson, 2017), and academic writing (Lam et al., 2018; Tantawi et al., 2018). Gamification can also teach

students how to learn a second language (Castaneda & Cho, 2016; Flores, 2015; James & Mayer, 2018; Pitarch, 2018). Most importantly, gamification can be used to motivate the process of learning for students (Boudadi & Gutiérrez-Colón, 2020; Jayalath & Esichaikul, 2020; Lengyel, 2020).

Because gamification has demonstrated much success in helping students achieve a number of essential learning outcomes, writing instructors may profit from incorporating gamification into their first-year composition courses by framing some of their units as games. Taking this approach would ideally help students easily grasp some of the fundamental writing skills that they should be able to acquire as outlined by the Council of Writing Program Administration (2014). As further support for this approach, Bruder (2014) argued that employing gamification in the classroom is beneficial on many levels because it “boosts enthusiasm toward... [the subject], lessens disruptive behavior, increases cognitive growth, incorporates mature make-believe which encourages growth and development, and improves attention span through game-centric learning” (p. 57). Gamification, then, can be viewed as an interactive approach to get students interested and involved in learning by helping students be in control of reaching their own goals and rewarding them for meeting those goals.

This article proposes a different way of teaching students the genre of academic summary. The researcher’s study uses the mechanics, dynamics, and emotions (MDE) framework proposed by Robson et al. (2015) as a way to gamify summary writing. The article will first explain why gamification works, then transition to explaining why the concept of gamification is being applied to summary writing. Afterward, the article will explain how to gamify a summary assignment and how the assignment meets Groh’s (2012) principles of relatedness, competence, and autonomy as a benchmark for determining whether the use of gamification will be successful in a given context. Finally, there will be a brief discussion of students’ reflections regarding the gamification assignment.

## LITERATURE REVIEW

There are several theories that explain why gamification works, but the motivational theory seems to be the one that prevails in game science literature (Hanafiah et al., 2019; Sun & Hsieh, 2018). Studies have shown that students are more engaged with school subjects through the use of games (Dickey, 2005;

McLaren et al., 2017) and game-based approaches have proven to increase students' knowledge of the subject (Papastergiou, 2009). Robson et al. (2015) explained that gamification thrives because it motivates people to behave in certain ways (p. 413). One of the drivers that motivates people is based on the idea of positive reinforcement. Positive reinforcement encourages repetition of behaviors (i.e., people repeat certain behaviors because of the rewards they can receive) (Brown, 2020). Positive reinforcement can either be extrinsic, such as prizes and money, or intrinsic, such as fun and enjoyment (Robson et al., 2015, p. 413). Extrinsic and intrinsic motivation, developed through potential positive emotional responses to gamified elements, helps explain the effectiveness and success of gamification. When people receive desirable outcomes, they are more likely to continue to take part in behaviors that generate those desirable outcomes, thus producing automatic behavioral processes (Lei, 2010; Robson et al., 2015). In this respect, winning, in the form of bragging rights, trophies, money, learning etc., would ideally prompt individuals to want to study the rules carefully, to play strategically, and to work harder to obtain their end goal(s).

Along this same line, Lieberoth (2015) found that when instructors frame a serious activity as a game, participants are more likely to become absorbed in the activity – providing yet another sound reason why gamification can be an effective concept to employ in a learning atmosphere. In a sense, Lieberoth found that engagement in a game is valuable when people understand the differences in work and play situations (p. 231). For example, some people may not enjoy serving food to customers in a diner within a work context, but when they play a server in a video game (e.g., *Diner Dash*), the alternative context produces different responses (Brown, 2020). That is, with a different set of rules, mindset, and context, this frame of embodying a server in a virtual world allows participants to identify that experience as game and escape to that world; this frame evidently produces a mentality distinct from their actual work life (Brown, 2020; Lieberoth, 2015). Lieberoth's study concluded that framing is a constructive approach to changing the perception of individuals in order to compel them to be more actively involved in an activity.

Framification, then, is the application of a low mechanic (a simplified system of rules) and a high frame (the inclusion of gaming elements to evoke a game-like experience). Gaming elements refer to “elements that are characteristics of games, i.e. that can be found in

many games, and that are significant to the meaning of the game” (Sailer et al., 2017, p. 372). Thus, when it comes to framing a serious activity (e.g., learning writing concepts), productive elements of gamification include applying simple game design and mechanics like points, leaderboards, and badges. Specifically, studies such as Abramovich et al. (2013), Borrás-Gene (2018), and Dowling-Hetherington and Glowatz (2017) have noted that badges are typical features of gamification and have been shown to be valuable motivators for increasing student learning and engagement. Reid et al. (2015), for instance, found that 51% of students reported having positive attitudes toward earning digital badges in their first-year writing course (p. 390).

Additionally, framification includes avoiding an overabundance of rules and mechanics and making sure the activity is designed as a game (Lieberoth, 2015, pp. 242–243). While classrooms may already have a naturalized form of gamification via the use of points and grades (and competing against other students for an ‘A’ as is the norm for law students), students generally do not see themselves as playing a game because trying to pass the class is a part of their job as students. So long as participants *think* they are playing a game (i.e., students are told explicitly that they are playing a game), they are more likely to perceive the activity as a game to win, adjust their mindset, and will therefore be more likely to have the desire to play and to play well (Lieberoth, 2015; Wouters et al., 2013).

Hitchens and Tulloch (2018) explained that applying certain aspects of a game to a non-game context will not automatically lead to motivating participants to do what the designer of the game intended. They cited the work of Groh (2012), who provides three principles of evaluating whether a gaming element might be successfully used in gamification: “relatedness: the universal need to interact and be connected with others; competence: the universal need to be effective and master a problem in a given environment; and autonomy: the universal need to control one’s own life” (p. 31). These principles are based on the self-determination theory, which relies on the environment as a source to explain a person’s motivational and psychological experiences (Sailer et al., 2017, p. 374). Groh’s three principles can be used to determine what gaming elements instructors should bring to a non-game context and why, and to also think about whether the implementation of certain elements will increase motivation (Hitchens & Tulloch, 2018, p. 31). Arbitrarily adding gaming mechanics and designs to

some activity does not mean a person will feel engaged and motivated. Indeed, not every added element will achieve its intended effect. A designer of gamification, then, must exercise caution in the decision-making process for selecting which gaming elements will be incorporated to help meet an organization's desired outcomes while creating a fulfilling gaming experience.

## METHODOLOGY

### Participants

This gamification study took place at a large, midwestern public research institution in Ohio. The study received IRB approval and was piloted in a required first-year composition class (Writing and Rhetoric I) that was taught by the researcher in the fall of 2019. During that semester, 17 students were enrolled in the course. The demographics of the class were as followed: 15 freshmen and two sophomores, and of those freshmen, 12 were females and three were males. Both sophomores were male. Finally, all students were native speakers of English. Students had a mix of majors such as economics, engineering, history, marketing, and nursing. Data was collected from a reflective essay given at the end of the semester in which students were instructed to respond to a list of questions evaluating the gamification summary assignment and their experiences with it.

### About the summary assignment

Students were invited to participate in the gamification assignment as part of completing their summary homework. For the summary homework, students were assigned readings that required them to summarize the work. Choosing to play the game was optional and students were not penalized for opting out of the game. Students, in fact, could do well on their summary homework without playing the game, but the benefits of participating included a chance to get extra credit, to be exempted from completing some of the summary homework, and to acquire a better understanding of the summary genre. The gamification assignment was introduced during the second week of class after students received a lecture on how to write a summary in the first week. Students were provided with an assignment sheet that included an explanation of gamification, the rules for playing, and the available digital badges that could be earned.

Writing instructors can think of framing as a tool for teaching genre to first-year students. For students, the class is where they would typically learn important writing skills that they can then apply to other classes (e.g., learning to cite, to find credible sources, and to make arguments). One such important skill is learning to write a summary. In some English courses, students are expected to read short essays and journal articles, and then summarize the readings for in-class activities, discussion posts, synthesis analysis, or research papers. Writing summaries may also be expected in classes outside of English and possibly in a student's profession. When it comes to writing a summary, students generally know the concept of how to write one (e.g., a summary is supposed to be concise and include the main ideas). However, when it comes to applying their knowledge, students can undermine the strength of their writing skills by including unnecessary details and examples, which results in lengthy summaries (Wichadee, 2013, p. 107). This writing skill, therefore, is critical for students to master, and thus the reason that the researcher in the present study chose to apply gamification to this unit of the curriculum.

### The design of the game

In creating a gamified learning experience, this research draws from the work of Robson et al. (2015) and their MDE framework. This framework informed the researcher's design of an assignment that was intended to engage students in the act of summary writing. *Mechanics* include the setup (e.g., who can play, the setting), the rules of the game (e.g., constraints), and the reinforcement (e.g., the reward) for players as they progress in the game (pp. 414–415). *Dynamics* are the behaviors of players that emerge as they partake in the experience. Such behaviors typically include bragging, cheating, competition, and cooperation (pp. 415–416). *Emotions* in a gamified setting are the affective responses and reactions evoked among players when they participate in the game. Such emotions should include an exciting feeling because players normally would not want to continue playing a game if they do not find it gratifying (p. 416). Understanding the MDE framework is critical for designing an effective gamification experience because "players' emotional responses and the dynamics that emerge during play shape the mechanics that govern play and vice versa" (Robson et al., 2015, p. 416). As such, the present research demonstrates the capability of applying this MDE framework seamlessly into the teaching and

learning of the summary genre. The researcher hypothesized that framing a summary assignment using this approach would allow students to grasp the writing concepts in a different but more constructive way, perhaps leading students to produce quality summaries that would be classified as college-level writing as determined by a writing instructor.

To start creating this gamified experience, students need to have a surface understanding of what gamification is and why it is being applied to the summary assignment. Some students may not be familiar with the term *gamification*, so it is critical to provide them with some background information on this term. Students were also told what their roles were as players in the game. At the start of the pilot study, students were provided with a written explanation of the purpose of the game, which was stated as followed: “The purpose of this gamification system is to teach students that writing is a process, a process which can be social (i.e., interactive or collaborative). By turning the act of writing summaries into a game, it is the goal of the instructor to illustrate that writing can be a fun activity and that writing is not simply a solo, independent endeavor.” This paragraph was followed by a formal definition of gamification, which was the aforementioned definition borrowed from Flores (2015) and Bruder (2014). After students read the purpose and definition of gamification, the rules of the game were introduced (the mechanics from the MDE framework). These rules informed students of who could participate in the game, what assignment the rules applied to, what to submit along with their summary, how students could win or lose the game, and what digital badges were available to earn (see Appendix A).

After reading through the background information and rules with the students, the researcher explained the digital badge system in detail. In simple terms, a badge is a symbol that shows some skill, knowledge, or achievement earned (Abramovich et al., 2013, p. 218). Digital badges can function in many ways, two of which are as a motivator or as a credential (Ahn et al., 2014); the badges in the researcher’s present study followed such two functions. Each time a student scores an ‘A’ on a summary assignment, they would earn a Master of Summary digital badge on Blackboard. Because students earn this badge only by successfully demonstrating an expected level of summary skill, this badge can be categorized as a performance-contingent reward: “a reward that is given for a specified level of performance, that is, for meeting a set criterion, norm, or level of competence” (Ryan et al., 1983, p. 737).

When students earn this badge, it could be viewed as a symbol of their ethos (i.e., that they are knowledgeable of the genre). For instance, in Borrás-Gene’s (2018) study, they discovered that 60% of students shared their earned badges on social network sites as a way to boost their credibility (p. 5). Use of this type of badge, then, can provide users with status, recognition, or mastery of knowledge (Abramovich et al., 2013).

In the researcher’s present study, if a student scored an ‘A’ on five summary assignments (i.e., they earned five of the Master of Summary digital badges), they were exempted from doing any more summary assignments for the remainder of the semester. Students were assigned seven summaries in the semester in which this study was undertaken. They were directed to read essays from the course textbook and recap those texts within a week’s timeframe. The shortest essay assigned to summarize was four pages and the longest essay was 19 pages. The extrinsic reward approach of earning a digital badge was hypothesized to motivate students to work hard and to score well on the first few summary assignments early in the semester so that they could forego the rest of the summary assignments later on as the term progressed. If students wanted to earn the reward of being exempt from having to do any more than five summaries for the entire semester, they had to accomplish certain goals: students had to work diligently on each of their summaries, understand the conventions of the summary genre, meet the criteria for scoring a 9 or better out of 10, take advantage of earning the other badges to help them meet their end goal, and perform their best to earn all possible points.

The rubric for evaluating a summary can vary, but for the pilot study, students were evaluated on criteria that were similar to the ones mentioned in Rosalie Friend’s 2001 study. Criteria included developing an appropriate thesis statement or the main idea, content inclusion and exclusion, sentence transformation, and overall summarization (Friend, 2001, pp. 11–12). Along with these criteria, organization, which has to do with the order in which sentences appear in the summary, was added to the list for the purpose of evaluating students’ summaries. Generating a summary that adequately meet each criterion would earn students a Master of Summary digital badge. Earning this badge would demonstrate students’ competence in summary writing, one of Groh’s three principles that helps writing instructors determine whether some gaming elements might be effectively used in gamification.

Achieving five A’s on the summary assignment was assumed to be a challenging goal, especially given that

students were taking their first college-level English class and might not have been familiar with the summary genre so early in the semester. However, students could increase their chances of meeting this goal by seeking the assistance of others. When students ask for help with their summary, they are going through the motions of the composing process. This process is one of the outcome statements of the Council of Writing Program Administration (2014): “Experience the collaborative and social aspects of writing processes” (para. 18). During the class’s peer review sessions, students were taught that producing an essay typically involves soliciting people’s help. Students, therefore, needed to lend their support to their classmates and were reminded in subsequent peer review sessions of the importance of helping each other. They were taught that college involves teamwork and collaboration, and that one of the ways students can succeed in their classes is by seeking and receiving help. Gamification can contribute to this “helping each other” idea through building a community of writers in the class. In effect, gamification, if designed correctly, can create an inclusive space to draw in students from different writing backgrounds and academic strengths into a common space to share their knowledge. This peer review component of the writing process can elicit comparisons to games like *BFF or Die* and *Overcooked*, wherein players rely on their team to win the game and that no single player can thrive on their own. This is the dynamics aspect of the MDE framework. Thus, the gamification of the summary assignment is intended to induce students to act cooperatively rather than competitively. Throughout the game for summary writing, students were encouraged to help their classmates earn their digital badges because it was in their interest not only to learn, but also to grow their network of professional contacts.

In line with this collaborative objective, another component of this game, then, is earning a Heroic digital badge. This badge is given to students when they help one of their classmates with their summary assignment outside of the scheduled peer review sessions. Wichadee (2013) found that students could improve their summary writing skills by receiving help from their classmates. When students question and critique each other’s work, they are learning the material from participating in dialogue with their peers. This acquisition of information is based on the social constructivism theory, which states that people possess different levels of knowledge on a variety of things and that people can learn from each other (Dobao, 2014). Sometimes

students may not be aware of the limitation or accuracy of their knowledge, but when they are challenged by their peers, they may gain newer understanding of what they know (or thought they knew). In effect, then, this Heroic badge emphasizes cooperation among students. To earn the Heroic badge, students must help three other students with their summaries outside of class in order to receive one extra credit point toward their final course grade. This type of badge can be categorized as a task-contingent reward: “rewards usually given for completion of an activity, but without respect to quality of performance” (Ryan et al., 1983, p. 737). Students earn this badge simply through participation, which anyone can easily earn. This cooperative aspect of the game meets Groh’s principle of relatedness because students are encouraged to interact with other students, which as a byproduct, also facilitates a community of writers coming to aid each other.

Furthermore, students could go beyond this localized level of help and seek assistance from the instructor or the university’s writing center. Part of writing a quality paper is understanding the process that is involved in creating a finished written product. The revision stage of the writing process is critical to producing a well-written paper. Students were taught about the benefits of receiving help, either during the instructor’s office hours or through the writing center. The encouragement of students to pursue additional support for their summary assignment can be conceptualized to asking students to go on a journey. Similarly, some games rely upon the trope of the quest. Perhaps one of the most salient examples of games that incorporate this quest trope is the role-playing game *Elder Scrolls V: Skyrim*, where a player can roam an open world environment on their quest to defeat a dragon; during the player’s quest, a player can develop their character through skills development. Because writing a summary can be difficult for first-year students, students are advised to use the resources at their disposal to guide them toward perfecting their summary writing skills and to recognize that they can develop these skills from multiple sources. This form of knowledge seeking can be equated to a novice going on a quest and receiving important information about a mission from wizards or sage characters in a game. Students, consequently, are persuaded to go on their own journey around campus and seek out their instructor’s office or the writing center where they may find help or be led to additional resources for their benefit.

When students fulfill one of their possible quests (e.g., going to their instructor’s office hours or going to

the writing center), they can receive a Resourceful digital badge. The goal of this badge is to impart wisdom onto the students that were derived from various sources (e.g., knowledge acquired from an instructor or a writing center). Students could then use their newfound knowledge to expedite their journey to getting a Master of Summary digital badge. In war games such as *Call of Duty*, characters sometimes must complete additional training to prepare themselves for what lies ahead. Novice characters cannot expect to succeed easily on the battlefield without adequate preparation; they must spend some time learning basic, necessary skills (e.g., understanding how to use a weapon or learning how to fight) in order to successfully accomplish their missions. In the same manner, students will fare better if they ask for help from experts as they begin to navigate the terrain of summary writing at the beginning of their journey, which can help them along the way to getting as many badges as possible. The Resourceful badge can also be categorized as a task-contingent reward because of the participatory nature of earning this badge. Giving students the option to receive additional help if they choose is an exercise in autonomy, the last principle of Groh's gamification benchmarks.

## FINDINGS AND DISCUSSION

Toward the end of the semester, students were given a reflective essay that asked them questions about their knowledge of summary writing and their experiences with gamification. There was a total of six questions. Because the reflective questions were open-ended, each student response was first reviewed and then coded for common themes against the class (e.g., how many students responded 'yes' to a question, how many students believed gamification was helpful and why). Specifically, the researcher performed a few rounds of initial coding. Initial coding allowed the researcher to get a sense of the data and any possible themes that could point the researcher in some direction for further analysis. The researcher did not specifically examine students' summary per se, but rather looked to students' sincere belief of their own learning progress and the types of badges earned.

To start, students were asked whether they knew how to write an academic summary prior to taking the class. Three students responded affirmatively, while the remaining 14 responded negatively. Of the three that stated they knew how to write a summary, only one of them earned five Master of Summary badges, while the other two did not do as well. This finding suggests that

students do sometimes think they know how to write a summary (probably because the summary genre is a simple concept in theory), but in reality, they may need more practice. Based on the data, it is apparent that students do not fully understand what is required in this genre yet, which suggests that the execution of the summary is more challenging than students assume. Thus, through a gamified writing assignment (i.e., through a different way of teaching and engaging students in the act of writing summaries), the objective is that they will feel confident in their understanding of what a summary is and know how to write one to an acceptable standard. When students begin to grasp the summary genre, it means that, at the very least, they have met the knowledge of convention outcome as set forth by the Council of Writing Program Administration (2014).

The researcher hypothesized that when students start to accumulate badges, whether that is receiving a Master of Summary, Heroic, or the Resourceful digital badge, they would experience positive effects that would in turn enhance their engagement in the game, similar to the findings from Reid et al. (2015), where they realized that "when learners earned the digital badges, they reported higher levels of intrinsic motivation to continue earning badges" (p. 388). The researcher's hypothesis was confirmed by the results of the pilot study. In reflecting on their overall journey, most students reported feeling happy about earning a badge, especially the Master of Summary badge because it was proof that they knew how to write a satisfactory summary and it eliminated any doubts about their ability to write; this sort of feeling is the emotional aspect of the MDE framework. Additionally, students reported that the badge system was a reminder that their hard work did not go unnoticed and that they truly felt accomplished when they received a badge. Furthermore, students reported that after they had earned one badge, they were reminded of the badge system and that motivated them to increase their efforts to earn more of the badges. One student reported that earning a badge was not satisfying because for that student learning and doing well in the class is the reward itself. It is a possibility that this student had sufficient intrinsic motivation to succeed at writing summaries and was therefore discouraged by the prospect of earning extrinsic rewards. This student response may be understood with respect to the notion that doing well and attaining high grades is what any student should strive for in college, which may be a minority view among the other students in the study. Still, most of the students

who played liked the gamification idea and claimed that they gained intellectually by participating in the game.

The findings from the present research indicate that when using this gamification framing, students will likely be compelled to do well, to help their classmates, or to seek additional feedback from authoritative sources in order to receive the badges. Earning any badge was portrayed as a form of winning, and this type of mindset likely motivated students to continue on a path of collecting more badges, which as a byproduct, meant that students had to do what was necessary to grasp the summary genre (this sort of comprehension will arguably bring joy and excitement because students are on a path of conquering an important writing skill). Thus, it can be argued that the badge reward system led some students to write better summaries because they wanted to earn more badges, which entailed learning the correct conventions of the genre. Indeed, 11 students reported that the system was motivational, although six did not believe so. A few students reported wanting the gamification system to grant higher rewards for their efforts. And there were others who did not think about the gamification rules when writing their summaries (“It was never in the back of my head when writing summaries”). Some even forgot about the badge system as the semester went on (“[H]onestly, I forgot about them”). The novelty of the gamification idea may have excited students initially, but over time the motivation to earn badges diminished toward the end of the semester, as was the case for the participants in Koivisto and Hamari (2014) and Reid et al.’s (2015) study. For the most part though, students from the pilot study found the integration of the gamification with their summary homework to be entertaining and useful – a twist to a required assignment typically given to students without any opportunity to earn tangible rewards. It appeared that students were attracted to this idea because it granted them a more enriching way of framing a tedious assignment, while trying to instill some fun into it all.

Ultimately, the gamification study resulted in some favorable educational outcomes. For instance, students involved in the study learned the meaning of “writing as a social process” and learned that traditional assignments could be turned into a game, which is one of the purposes of gamification. Fulfilling one of the main goals of adding gamification to the curriculum for students’ benefit, eight students reported that gamification helped them understand how to write better summaries because they were able to see how their summary compared to their peers and what certain elements looked like in application (e.g., the use of

attribution, the meaning of concision and relevance). However, the study faced some design problems. For example, a few students reported that the rules were not clear, which may have prevented some from fully participating in the game. Students’ confusion about the gamification aspect of the assignment is understandable. Integrating gaming elements such as digital badges into a first-year composition course, especially given the rules and procedures for earning them, has been reported to confuse college students like those in Smith’s (2017) study. Regardless of whether students understood the gamification system, nine students did not believe the application of gamification was helpful to their understanding of how to write a summary. Overall, however, there was a high rate of participation among the students, demonstrating that gamification has some merits for students’ educational goals. In total, 15 students earned one or more of the Master of Summary badges, four students earned the Heroic badge, and zero students earned the Resourceful badge. In the reflective essay, students were not asked why they did not want the Resourceful badge, but the researcher speculated that perhaps students were unwilling to do more work than was necessary if a badge had no tangible reward attached. In contrast, the other two badges provided students with the possibility of earning an exemption or extra credit, which may have prompted students to go after them. In the end, three students completed the journey and won the game by being exempt from having to complete the remaining summary homework.

While students were often motivated by their own successes in the game, they could also view the failure to earn certain badges as a motivational factor to keep them going – something Jesper Juul (2013) identified as a reason why failing is an important part of games. Under the gamification system developed for this present study, not every student will earn a badge, similar to how not everyone can win in a video game. Feeling angry or frustrated are typical emotions derived from game playing, and these emotions can be edifying while playing a game because such emotions can act as an impetus for better playing next time. By the end of the semester, two students did not earn any badges. According to their responses, their failure to earn any badge is eye-opening for future design applications. One of the students recognized that there is room for improvement, and the other student reported that the failure to earn badges made her feel unaccomplished and that she wished she had worked harder to earn some badges. These students, however, expressed no commitment in the game and attributed their lack of

badges to factors beyond the gamification summary assignment. The student who felt that there was room for improvement indicated that she perceived the gamification summary assignment as potentially carrying an undue burden for which she found unmanageable with her course load. The other student who felt unaccomplished indicated that she did not wish to put in the time or effort to earn any badges. One student even reported disappointment in herself for not earning more badges than what she had accumulated. This particular response from the student supports the findings from Reid et al.'s (2015) study: "learners who placed higher expectations and more value on learning tasks possessed higher levels of motivation to earn digital badges" (p. 387). Feelings of disappointment or a lack of accomplishments may spur some students to do better next time so that they can earn rewards and try to win the game. Even when efforts are made to help students experience learning as fun, some students may nevertheless view some assignments as challenging or mundane – both of which are aversive experiences that can hinder students' chances of achievement. The results of this pilot study propose that writing instructors should make efforts to gamify any unit of the curriculum, if possible, as a way to gauge the majority of students' engagement and dispositions.

## CONCLUSION

When writing instructors marry game mechanics to their curriculum, they will most likely harvest fresh types of learning. Video games, in general, have been found to be advantageous to learning literacy (Gee, 2007). Educators, in fact, have been borrowing techniques and strategies from games to improve the way they teach students for well over a decade (Dickey, 2005). Studies have shown that motivating students to participate in classroom activities (readings, discussion posts, research) has been difficult, especially when teachers take the more traditional pedagogical route (Hitchens & Tulloch, 2018, pp. 28-29). But students are living in a digital era, where they are glued to their screens round the clock and have shorter attention spans. Thus, educators need to rely on novel approaches to teaching a technologically advanced generation of students. Instructors can take knowledge from game science literature, such as the idea of gamification, and adapt it to many of the writing concepts they want to teach in the classroom as a way to get more students immersed in the learning process.

When writing instructors frame educational activities as a game using Robson et al.'s MDE framework and Groh's three principles, there is a high chance that students will be more involved and interested in learning the material and will gain a deeper appreciation for the concepts than if they took a more traditional, lecture-based route. In the case of applying gamification to summary writing, the results from the pilot study demonstrates that most students found the application helpful to their learning of the summary genre. Additionally, the routine aspect of constantly writing summaries was offset by giving students the opportunity to possess the mind of a gamer where they could earn different types of digital badges via different means (some by illustrating knowledge and others by participating). This approach to learning evidently encourages students to want to continue to earn as many badges as possible, giving badge holders a sense of pride and accomplishment (i.e., to help boost their ethos). Furthermore, being able to instill the idea of collaborative learning as opposed to the competitive, fight-for-grades mantra is a way to bring students together into the same space so that everyone can have a win-win attitude and focus on knowledge generation instead of strictly grades. Gamification is becoming more common across the board (Sailer et al., 2017, p. 371). Educators need to consider this approach as a way to reach a diverse group of students who each have their own learning styles and, thus, to consider creating an interactive learning environment with gaming elements as a solution.

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## APPENDIX A

### Playing the game: Learning to write a summary

#### BACKGROUND

The purpose of this gamification system is to teach students that writing is a process, a process which can be social (i.e., interactive or collaborative). By turning the act of writing summaries into a game, it is the goal of the instructor to illustrate that writing can be a fun activity and that writing is not simply a solo, independent endeavor.

Gamification can be broadly defined as “the use of game elements and game design techniques in non-game contexts” (Flores, 2015, p. 38). In other words, to be classified as gamification, the activity at hand (which is generally not necessarily a game) must use gaming techniques (Bruder, 2014, p. 56), so that the activity in the non-game context can appear more game-like.

#### HOW TO PLAY

##### Rules

This gamification system is only for summary assignments.

Only students enrolled in ENG1510 during the fall 2019 semester that is taught by the instructor may participate.

You must write your only summary (though you may seek guidance from your instructor’s office hours, from the writing center, or from your classmates).

Summary assignments must be submitted on the due date, along with a work cited page.

##### Badge System

*Master of Summary.* This badge is designed to build your ethos. Earning of one these badges is a testament to your skills in writing a summary. People will want to come to you for your expertise. Earn this badge by scoring a 9/10 on your summary assignments. When you have earned five of these badges, you will be exempt from doing any more summary assignments for the remainder of the semester.

*Heroic.* This badge is designed to help you understand the value and importance of helping your classmates. Writing is not just an independent activity, but it is also a social and collaborative activity. Earn this badge by helping your classmates in your section with their summary assignments. This badge can only be achieved by helping a classmate outside of the scheduled peer review session. You may earn as many of these badges as you like.

The student who has received your help must submit the summary with your comments on it (please include the name of the student who helped you), along with the final draft of the summary. In other words, when you receive help, you will turn in two summaries: one summary has comments from your classmate (with his/her name on it) who helped you and the other summary is the final draft.

When you have achieved three Heroic badges (helping the same classmate twice for the same summary assignment does not earn you two badges, but you can help the same classmate on different summary assignments), you will earn one extra credit point toward your final grade.

*Resourceful.* This badge is designed to help you acquire knowledge about writing a summary. Think of this badge as finding a treasure map or some critical document that will help you in your educational journey. You never know what you can learn unless you seek out help from experts. A Resourceful badge may help you earn a Master of Summary badge faster. Earn this badge by asking experts to help with your summary assignment. You may ask either your instructor during his office hours or from a tutor in the writing center.

Note: Reading online materials about how to write a summary may also be helpful but be careful where you are drawing your sources from. Some websites are not updated, or some websites are not written by experts in the respective field. Seek help where you know you can trust the information you receive.

##### Technical Support

If you have any questions or concerns about this game, please consult your instructor during office hours or during class. Email is also sufficient.