Gamification: The Experiences of International Baccalaureate (IB) Teachers shared

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To cite this article:

Sandoval, S., Lamb, J. A. (2023). Gamification: The experiences of International Baccalaureate (IB) teachers shared. *International Journal of Technology in Education (IJTE), 6*(2), 187-202. https://doi.org/10.46328/ijte.375

Gamification: The Experiences of International Baccalaureate (IB) Teachers shared

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Article Info	Abstract
	With the changes in the educational landscape, holding students' attention has become an even more crucial point. Educators are having to find creative ways and means to engage students and make learning 'fun'. There have been numerous research studies to show that gamification can be used to drive student engagement, achievement, and reinforce expectations of classroom behavior. These three areas have been important in the International Baccalaureate (IB) world. The need for the reinforcement of expected behaviors has been a noted area in the most recent executive summary; teachers are struggling to implement Approaches to Learning (ATL) in their daily curriculum. ATL skills include communication, self-management, and organization. Classcraft, a gamification system, can help to reinforce these skills daily driving academic success and student engagement. Gamification is not being adopted by teachers and college-level professors. The concerns and resistance are connected to time, beliefs surrounding gamification, and lack of training/knowledge. This research project set out to shine more light on gamification and its implementation into the classroom. By measuring the experiences of teachers through a mixed-methods process, the importance of professional learning and implementation was shown to be important for teacher adoption.

Introduction

Gamification is the "use of elements traditionally thought of as game-like or 'fun' to promote learning and engagement" (Kapp, 2012, p. 9). Gamification includes a number of important elements such as having a set of rules, having a certain number of players, giving a difficult challenge to overcome, providing some kind of clear feedback, and there is some type of quantifiable outcome at the end of the game (Kapp, 2012). Different studies have shown gamification increases student engagement. Three courses at Washington State University implemented the gamification program, Classcraft. Alsawaier (2018) found 80% of the students were more engaged with the gamification aspects of Classcraft. This was echoed in several other articles, including Sanchez, Young, & Jouneau-Sion (2017), who surveyed different teachers using Classcraft. Sanchez et al. (2017) found teachers saw the benefits of gamification in their classrooms. Teachers noted that students showed more positive behaviors with the implementation of the systems in their classrooms.

In a 2021 survey, from EdWeek Research (as cited in Toth (2021), found that students reported they were 50% less motivated pre-pandemic. Additionally, teachers reported viewing students as being 87% less motivated pre-pandemic (Toth, 2021). At an independent school in central Florida, teachers were working to find more ways to motivate and better engage their students' attention. The school offers an International Baccalaureate (IB) curriculum from Pre-kindergarten (P-K) to the twelfth-grade students. The school spreads over two campuses, including over 1,000 students. The school consists of a Primary Years Programme (PYP; PK-5th), Middle Years Programme (MYP; 6th-10th), and Diploma Programme (DP; 11th-12th). Student engagement is an important part of creating more positive attitudes towards school (Azzam, Larsen, & Mansfield, 2020). To help the students have a more positive attitude towards school, teachers used gamification to better engage their students.

Previously, there was very little to no gamification in the school's classrooms. The extent of gamification in the classroom was Kahoot!, Quizlet Live, or other one-off games not carrying over from class to class. This research project sought to better understand the experience of MYP teachers implementing gamification in their classrooms over a two-week period during the fall of the 2021-2022 school year.

Statement of Problem

In the education world, gamification is not being used to its full extent. Literature has shown the use of gamification as an effective tool when engaging students from K-12 to higher education (Alsawaier, 2018). Unfortunately, research has also shown faculty members' perspectives of gamification is it takes too much time, or they might not necessarily know what gamification is (Dunham, 2018).

Teachers also report being unsure of how to implement gamification strategies in their lessons or units. Kapp (2012) said a number of misnomers connected with gamification. These misconceptions include thinking gamification is just badges and rewards. In reality, gamification needs to be interactive, engaging, and includes a set of rules and storytelling. The second misconception is gamification is a trivialization of learning. Gamification is designed for children and is not to be taken seriously. Kapp points to gamification being used in business, the military, and medical scenarios and should be taken with the utmost seriousness. The third misconception is it is new. Kapp explains the use of gamification has been around since the 7th century. Additionally, gamification has been used in traditional education for a number of years. Specifically, professors and educators creating challenges for learners, developing case study scenarios, and setting goals while supplying feedback. What is new is bringing these elements together in a new type of way. The fourth and fifth misconception is that it is easy to create and perfect for every situation. This belief is similar to what is outlined in the literature; educators are not quite sure what it takes to implement a system in their classroom. Gamification is not perfect for every situation and, if not used correctly, it will come off as inauthentic or will fall short of the intended objectives. Teachers will not use it consistently, and they will have a negative experience.

The first three concepts (badges, trivialization, and newness) connect to the idea of gamification being this new practice that teachers stay away from because of its uncertainty. The last two concepts (easy to create and it's right for every learning situation) connect to how important the implementation process is for teachers. If teachers

went into the system without forethought, then there would have been an issue with sustainable use if it did not go to plan. With more professional learning, these fears and preconceived notions can be changed, allowing for more gamification to be brought into classrooms around the landscape on a sustainable basis. By examining the experience of MYP teachers at a school in central Florida implementing gamification, the confusion surrounding gamification was clarified. Educators in MYP (6-10th grade) IB classrooms being affected by this problem benefited from this study.

Purpose of the Study

The purpose of this study was to demystify the concept of gamification in the classroom. This mixed-methods study examined the idea of the teachers' self-concept and perspectives of gamification as demonstrated by the effect of teachers learning, implementing, and reflecting on gamification. It explored both positive and negative perceptions related to gamification. It compared those ending reflections collected through interviews to the initial and post- perceptions collected using surveys to see if there had been a change.

Significance of the Study

The conceptual framework supporting this study was based upon the studies by Bradley (2020). Bradley used a concurrent mixed-methods design. The design collected data about asynchronous professional development (PD) on teachers' understanding of a technology integration while being supported. The framework had teachers watch videos on technology integration, participants were given literature and time to discuss with their peers and the technology administrator; "The videos, documents, and discussion followed best practices for PD: being timely, appropriate, relevant, and giving teachers time to plan" (Bradley, 2020, p. 47). The teachers then created a lesson with the information in mind and built it into a lesson plan. This was done in the research project as teachers were given 2 one-hour professional development sessions. During the professional development, the Classcraft representative explained the importance of gamification, discussed the different tools, and ways to implement it contextually in the classroom. The researcher discussed with the teachers before the implementation process to answer any questions or concerns about the gamified rules. The design followed the idea of "cycles of action and reflection…[and] strengthening a skill set" (Bradbury-Huang, 2010, p. 98).

Bradley's (2020) data collection design included an observation, interviews, and a pre- and post-assessment Likert scale. This conceptual framework followed the same design of measuring a before and after change in the teachers, but it was focused on gamification as opposed to technology integration. The conceptual framework was similarly looking at the effectiveness of PD and the impact of perceptions on gamification. Bradley (2020) found that teachers perceptions "about technology integration in the classroom can be the most significant influence as to whether or not [technology devices] are actually deployed in the classroom" (p. 97). Additionally, when support is in place and there are no concerns, then confidence in technology integration rises (Hall & Martin, 2008). The framework was built on this idea that the teacher self-concept will increase with technology support, that the IB teachers' perspectives will be more positive, and that there will be a more overall positive experience. It was expected that the PD, implementation, and finally, the reflection would show a change in the beliefs and

perceptions of the teachers.

This study was particularly important to the IB MYP program because it aimed to solve two problems. The first addressed the mystification surrounding gamification and the second addressed the lack of teaching ATL skills. The study worked to streamline the IB Approaches to Learning (ATL) skills into daily curriculum using gamification. IB ATL Skills are "powerful tools for exploring significant content. This dual focus (content and process, knowledge and skills) promotes student engagement, deep understanding, transfer of skills and academic success" (Baccalaureate Organization, 2014, p. 20). The IB MYP program teachers struggled to implement Approaches to Learning (ATL) skills last year. The executive summary for IB stated: "For example, many teachers discussed confusion regarding Approaches to Learning (ATL) and how to implement the ATL skills effectively into their unit plans" (Azzam, 2020, p.10). Classcraft was a suitable approach to implement the ATL skills into the daily practice, so students were being rewarded for the soft skills they were using on a daily basis. The goal was for there to be an improvement in the "transfer of skills and academic success" (Baccalaureate Organization, 2014, p. 20).

By demystifying gamification, the IB organization can and should provide professional learning opportunities connected to gamification and Classcraft and how it can be used to teach the ATL skills and help teachers to better engage students. Outside of IB, teachers will be more likely to use gamification in their curriculum and behavior modification. This will allow for teacher's using gamification to better reach their objectives for their unit and classroom. Additionally, districts and teacher training programs will have further information and research as to why there is a need for more gamification professional learning.

There have been numerous articles showing the effectiveness of gamification when it comes to keeping students engaged and driving academic achievement. Alsawaier (2018) in his study at Washington State University, measured student motivation when gamification was implemented. Of 44 student participants in the study, 88% said they were more motivated to learn when gamification was being implemented. Additionally, 85% of students agreed (or strongly agreed) that they "felt absorbed in the class activities which employed video game elements." The perceptions of students surrounding gamification were similarly shown in Kingsley & Grabner-Hagan's research (2015) when they found that 95.8% of 47 students agreed, or strongly agreed, they looked forward to using their iPad to play 3D GameLab (a gamified system), and 87.2% stated the system made learning easier.

McFarland (2017) discovered through interviews, the teachers "had a misconceived notion that gamification was too difficult and conceptual for them to actually apply to their curricula" (p. 48). The participants were unsure of what gamification was. Some of the teachers did not even realize they had been gamifying certain areas of their classrooms. There is clearly a gap in understanding. Educators can see gamification does increase student engagement and motivation, but there is a fear or misunderstanding about what gamification is and how to go about implementing it into the classroom. Educators are not adopting it or sustainably using it in their classrooms due to their perceptions and lack of knowledge. These two areas can be remedied through continued professional learning and support.

History of the Problem

The current research has aimed at establishing teacher and professor perceptions of gamification in the classroom, but not if professional learning has an impact on these perceptions and beliefs. Dunham (2018) researched the perception of professors. The positive themes were on the ease of adopting gamification into the classroom, the benefits of gamification, gamification reaching different learning styles, and gamification over conventional teaching methods. On the opposite side, Dunham (2018) found negative themes such as teachers believing students went off task or were less focused when using gamification, the lack of knowledge by professors, and if gamification was time-consuming when looking at the perceived risks of gamification in the classroom. The findings from Dunham showed a number of benefits and fears connected to bringing gamification in the classroom.

Fisher et al. (2014) found that the surveyed teachers thought the concept of gamification was interesting but were not sure of how to define gamification. Fisher concluded a further study on gamification in business courses was needed. Fisher once again showed that teachers know there is a benefit to gamification in the classroom, but there is a clear lack of knowledge and experience with the system. In both of these cases, researchers have aimed to understand the perception of educators when it comes to Classcraft (a gamification system). There is a clear lack of research when it comes to the changing of those perceptions. Specifically, do teachers have a change in their perceptions and confidence once they become more familiar and knowledgeable about gamification through professional learning and experience?

With the focus of this project being on the implementation of gamification and its impact on teachers, it has the closest similarity to that of a 1:1 technology initiative. Mosie (2019) researched teacher self-efficacy and the implementation of technology in the classroom. Mosie stated in her research that "[w]hile some teachers reported increased confidence due to access to new information, other teachers explained that a lack of training and high levels of uncertainty led to decreased confidence in the classroom" (pp. 4-5). A 1:1 technology integration is where students receive a personal device such as a laptop, tablet, or iPad (Mosie, 2019). Garbo (2016) found that teachers were hesitant to implement a 1:1 technology and struggled during implementation. The hesitancy is similar to that of gamification. For example, teachers were hesitant due to how complicated 1:1 technology seemed, and they had a fear of failure due to a lack of training (Mosie, 2019). These two hesitancies could be connected as to why gamification is not being adopted.

Similarly, during a 1:1 implementation, teachers can feel that they are staying "one step ahead" of the students (Frazier & Treckles, 2017). It was important that teachers were receiving necessary training and time to adequately plan so that they are not staying just ahead of the students. If teachers were not feeling comfortable and confident in the tools, then they would not sustainably use the tools. Mosie (2019) found that the teachers reported seeing the value of the integration of the iPad but "their personal beliefs about their own abilities to use the technology affected their usage of the technology (p. 114). For a successful implementation, teachers were going to need proper professional learning, support for professional learning, so that their perceptions were not negative and thus impact student achievement.

Benefits of Gamification

The benefits of gamification have been measured based on student engagement and motivation. Dunham (2018) found higher education professors believed gamification increased student engagement and understanding as compared to conventional teaching methods. Additionally, the participants believed gamification allows students to be reached with different learning styles. Participants believed that "gamification can provide visual aids, audio, tactic and other ways to motivate all students to learn" (p. 71). The researchers also found gamification is beneficial because of its immediate feedback provided to the students in the moment. This same idea was found in Sanchez et al. (2017). They found classrooms implementing Classcraft showed that students were able to learn how they should behave in class because of the immediate feedback being provided to them from the system and the teachers. The prompt feedback allowed for immediate changes to be made to their ongoing behaviors.

An immediate benefit of gamification is it can modify and stop disruptive behaviors (Bruder, 2015). Boyle, Connolly, and Hainey (2011) found that gamification can improve 21st-century skills "such as self-regulation, creativity, and effective communication, cooperation, collaboration, negotiation and working in teams" (p. 72). Kingsley and Grabner-Hagen (2015) stated that gamification has the benefit of allowing for "creativity, collaboration, and community" (p. 52).

An additional benefit to gamification is that it encourages more student leadership. Janiec (2015) found in the MYP classroom, Classcraft was used to award experience (XP) for the completion of tasks. The tasks included creating a video and social media page connected to the curriculum. Students looked forward to XP and gold being awarded on a regular basis based on their ATL skills. Janiec (2015) noted teachers in the 7th grade implemented gamification through using the ATL skills. When a 7th grader used one of the skills, it was noted by the teacher. After the students collected all 10 of the skills, then they could replenish their action points (AP), allowing them to cast more powers. By the end of the 7th-grade implementation, "The biggest encounter they have stumbled upon was to recognize emotions [of] their classmates" (p. 117). By reinforcing the ATL skills in a different manner, students were able to improve in their leadership and social intelligence. The use of Classcraft in an IB classroom is important to the problem IB schools are facing. On the most recent executive summary, teachers noted that they struggled to implement ATL skills in their classroom on a daily basis. This is a pathway for gamification to be seen as important. The idea was that if teachers saw that gamification can improve soft skills, then they could see it had a place in the IB classroom.

Research Questions

There are three research questions as part of this mixed methods study. They are:
1. What is the experience of IB teachers learning and implementing gamification through the MYP school years?
2. What is the relationship between professional learning and the self-concept of IB teachers when it comes to gamification?
3. What is the relationship between gamification implementation and IB teachers' perspectives?

Description of the Methodology

Participants

The population was MYP teachers at an IB school in central Florida. The sampling strategy used was based on convenience. The rationale was to get an authentic variety of perceptions of gamification and self-concepts connected to gamification. The sample of teachers were selected from Mathematics, Language and Literature, Language Acquisition, Design Technology, and Humanities found in the MYP program of the selected school. The sample size was 12 teachers. The teachers ranged in experience of teaching IB MYP curriculum (6th-10th grade). The teachers were sent a recruitment email at the beginning of the school year and then were then sent a pre-assessment to gather the initial perceptions surrounding gamification.

Survey

The data analysis process consisted of sending a pre-assessment survey to the selected participants. The survey was sent as an email to the participants and collected through Google forms. The survey was built by Fisher, Beedle, and Rouse (2014). The survey has 29 Likert scale questions and 1 question allowing for participants to respond with any missed information. The questions are broken into three parts: Knowledge of Gamification, Attitudes Toward Gamification, and Experiences with Gamification. The survey was sent to the participants at the conclusion of the research process to measure a change in attitudes and knowledge of gamification.

Workshop

The teachers were given a two-hour workshop. The first hour dealt with the following areas: what gamification is, the importance of gamification, and how to use the tool, Classcraft. The second hour of the workshop allowed the teachers to log into the system, look at the different pre-settings, and make any necessary changes. This includes the pre-settings and behaviors (rules) connected to the ATL skills that were approved by the MYP Coordinator on site. The leader of the professional development (Classcraft representative) spent most of the time showing the boss battle and the different tools that were in Classcraft. The boss battle allows for formative assessments to be gamified.

The teacher sets the health points for the boss, and the students bring its health down based on answering questions correctly. Students' health decline if they answer the questions incorrectly. He gamified the professional development. Teachers were able to discuss different ideas surrounding gamification in their own classroom. Similar to Bradley (2020), it was important for the professional development to be relevant to the teachers' contexts. The workshop was recorded if any of the participants missed the professional learning workshop. Following the workshop, teachers spent two weeks implementing Classcraft into their classrooms during the fall semester of the 2021-2022 school year. During the 2-week implementation, teachers were able to reach out to Classcraft or the researcher for support. The support included technological issues or general issues connected to implementation.

Interview

Teachers were given a one-hour long semi-structured interview to see if their perceptions had changed. The interviews consisted of 29 questions. This kept the interviews consistent between the participants. From the interviews, themes were drawn up to see if there were changes to the perceptions and self-concept of the teachers. The rationale for the interview and questions was to see if there was a change in the participants. The rationale was to see if the participants seemed more confident in their use of implementing gamification in their classroom and what view (positive or negative) they had about the system. The instrument was created and approved by McFarland (2017).

All questions were kept the same except for the population identifying questions at the beginning. The data was collected through Google forms and stored in a password-protected server. The researcher received approval to use the published instrument.

Semi-Structured Interviews

The interview portion of this study took place at the conclusion of the implementation of gamification into the classroom. The interview was recorded using the microphone on the researcher's laptop. The recordings were then transcribed onto a Google document. The interview survey, developed by McFarland (2017), was used to assess the experience of the participants of implementing gamification. The tool was created to gather teacher's perceptions of student engagement and motivation who are currently using gamification in their classroom.

After the interview, the participants reviewed the transcript, corrected, and clarified any of their responses before the information was analyzed. The researcher received approval to use the published instrument.

Variables

In this mixed-method study, both qualitative and quantitative measures were considered. For the quantitative study, a survey was used to answer research questions one, two, and three. The independent variable is that context specific and ongoing professional learning caused a change in teachers. The dependent variables are that the self-efficacy and perceptions towards gamification saw a change at the end of the research project. The scale to determine the change in self-efficacy and perceptions were strongly agree, agree, uncertain, disagree, and strongly disagree. For the qualitative portion of the study, semi-structured interviews were used to focus on the experience of the teachers and clarify the answers connected to dependent variables. There was no analysis based on gender, age, experience, or subjects taught. All teachers were in an MYP classroom (6th to 10th grade).

Limitations of the Study

The findings of this study were limited to 12 IB MYP teachers participating in the study. Care was taken, to ensure findings were not overgeneralized to a larger population. Additionally, participants were not random. The

participants were chosen based on convenience. Variables, such as demographics, were not considered for this study. Potential weaknesses in the research design included the short amount of time, number of participants, and that data from one grade level could not be used after a student breeched the system.

Results

The purpose of this study was to answer the three research questions through a mixed-methods approach. The Post-assessment data was compared to the pre-assessment data to establish a baseline and draw out initial data to be further explored through the interviews. Final interviews were used to draw themes from the data to seek an answer to the experience of teachers using gamification, a connection between professional learning and the self-concept, and the perspectives of teachers about gamification. The data revealed valuable information for schools implementing Classcraft. All the questions were answered by comparing the quantitative and qualitative data. The quantitative data was calculated using Google sheets. The same calculations from Fisher (2014) were used to analyze the surveys. The strongly agree response was given the weight of 5 while the strongly disagree was given the weight of 1.

Research Question 1 – The Experience of International Baccalaureate teachers

The first research question, *what is the experience of International Baccalaureate teachers learning and implementing gamification through the MYP school years,* had one initial theme from (Ease of access and challenges) the research. The qualitative data brought up 3 additional themes: (a) a change in the knowledge with the teachers recognizing what was gamification, (b) having a positive or negative experience by integrating the system into curriculum, and (c) finally having a positive or negative experience by seeing the students' experience.

Theme 1: Technology Challenges

There were several issues connected to technology when it came to implementing the system. This ranged from minor hindrances to the program needing to be stopped early in one of the grade levels. On a minor scale, when it came to the system, participants noted several issues connected to technology. One of the issues came from participant #6. She stated that she wanted to place the timer on the board (a feature from Classcraft), but it was not working when she projected her iPad on the board. She stated that some of Classcraft's features only work on the MacBook, and thus there were issues with implementing the system fully in her class. An additional technology issue came up with the translator.

A major challenge during the implementation was that the 7th-grade teachers needed to stop their implementation early because of a security breach in the system. The stopping of the implementation impacted participants #1, #2, and #12. The first part of the experience was seen by all three of the members as being positive. Participant #1 said, "It was very positive. I was super excited about doing it, and I'm definitely going to use it in the future. The kids were excited about it, other than the little hack there, I really didn't see negatives from it. I mean it just seemed like an overall very positive move in the right direction." This was the case for Participant #2 and #12

who both stated that positive benefits of their experience from the ease of use to seeing students buy-in to the system. The breach happened when a student was able to get into one of the teacher's accounts. He then gave points away to several of his peers (thus maxing out their characters). The breach was reported to Classcraft, but the system was not able to be rolled back to the previous day before the breach. The response from administrators was to conclude the 7th-grade portion of the project early.

Theme 2: Knowledge of Gamification

Throughout the process, teachers noted several changes in their knowledge surrounding gamification. Their experience taught them more about the systems and what gamification is and is not. From the start, there was a change in the mean reported score when it came to the familiarity with the term gamification. In the initial post-assessment teachers had a mean response score of 4.58 as compared to the pre-assessment of 3.67. The difference of .91 showed a more knowledgeable set of participants following the research process. The data showed a statistical significance of .02. The shift came from more participants strongly agreeing that they were more familiar with the term. In the pre-assessment three teachers strongly agreed, three were undecided, and three disagreed when responding to the question: "I am familiar with the term gamification." This contrasted with the post-assessment where eight teachers strongly agreed, three agreed, and only one was undecided. Through the experience, teachers become more familiar with what gamification was and was not. One participant said, "I think I had a different understanding about what gamification was. Like I kind of thought it to be like how to gamify individual activities, not necessarily like the whole structure of your class. Which is better because then every little activity you do plays a part in that whole game, rather than isolated games that don't kind of connect to anything." Through the experience, participant #4 realized that gamification was having continuity throughout the lessons instead gaming in education. This was additionally shown in participant #2's response when she acknowledged that she knew the term but did not have exposure to a system such as Classcraft where it gamified your whole curriculum.

By the end of the research project, more teachers stated that they were able to gamify their classroom. The pre-assessment showed a mean score of 2.83 when responding to the question: "I know how to apply basic element of game design to activities in the classroom." This score was based off one teacher strongly agreeing, three teachers agreeing, three teachers being undecided, three teachers disagreeing, and two teachers strongly disagreeing. As compared to the mean score of 4.42 (showing a positive change in the ability to apply a gamified design) in the post assessment. In the post assessment, no teachers disagreed or strongly disagreed. The data was statistically significant (.0009). Additionally, more teachers strongly agreed. The professional development along with the implementation of the system allowed teachers to learn how to apply the basic elements of game design to activities in the classroom.

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Research Question 2 – Professional Learning and Self-Concept of Teachers

The second research question, *what is the relationship between professional learning and the self-concept of IB teachers when it comes to gamification,* included one initial theme of the importance of the implementation of professional development. The two derived themes connect to the that initial theme and were recurring during the interview process. Through the interviews the teachers noted how important the new chapter system through Classcraft helped with their entry into the program and to move at their speed. Additionally, they noted how their self-concept could have been improved through on-going professional development and interaction with their grade-level team.

Theme 1: The Chapter System Led to Teacher Agency

Right before the research project started, Classcraft completed a change to their professional development. Instead of having teachers have full control over the framework, teachers had to go through what are called chapters. Each chapter provided more options for the teachers. The teachers stayed at a variety of different chapters and progressed through them at their own speed. The teachers stated the chapter system helped with their self-concept of implementing gamification in their classroom.

Theme 2: Importance of Ongoing Professional Development

The professional development from Classcraft could have been improved. The two days back-to-back did not allow for the teachers to discuss how they were gamifying their class. Additionally, it did not allow for them to have time to implement the first chapter before they progressed forward. When asked if teachers would be interested in learning how to develop gaming techniques in their classroom, participants in the pre-assessment had a mean score of 4.83. Ten participants strongly agreed and two agreed to wanting to learn more about developing their gaming techniques in their classroom. The post-assessment showed a much lower mean score of 3.92. The difference was due to now having two undecided and two disagreeing. The teachers did not have the opportunity to share their gaming techniques, and thus it could have had a negative impact on their self-concept of gamifying their classroom.

Research Question 3 – Implementation and Teachers' Perspectives

The third research questions, *what is the relationship between gamification implementation and IB teachers' perspectives,* had two themes derived from the interviews – that gamification is contextually for certain students

and there is a connection between points and the perception of the system.

Theme 1 – It's for Certain Students

Throughout the interview, this idea of gamification being important for certain contexts came up. That it was important to several grades and groups of students, but that it was not necessary for all the groups. The first area came from the quantitative data when teachers responded to the question, "Playing games is a waste of time." In the pre-assessment, 92% (11) of teachers said that they strongly disagreed with that statement as compared to the post-assessment where the 42% (5) teachers only disagreed with the statement. The shift in strongly disagreeing to disagreeing, shows a slight change in the teachers' perceptions that somewhere in the implementation, something happened. The data was one of few areas that was close to being statistically significant (.06).

Teachers noted in their interview that the system was stronger for certain contexts. There were a couple of responses (specifically in the upper school) where participants stated they did not feel the need to use the system because the students were so good but that they plan to use it in the future for a rising grade. Participant #7 changed her perception of gamification after the implementation because she was able to see the need that can be met with Classcraft. The survey set out to see if teachers saw the system as a useful strategy for student learning. The quantitative data was not statistically significant, but several interviews showed that teachers could see a benefit to student learning.

Theme 2 – Points Connected to Perspective

At the end of the project, there were several perspectives when it came to the points. Some teachers had a positive view of the Classcraft system and others had a negative view of the system when it came to the competition. In the pre-assessment, teachers responded 33.33% (4) being undecided or agreeing that gamification leads to competition. After the implementation, 66.67% (8) of teachers agreed that gamification led to competitiveness in the classroom. Even though the data was not statistically significant, there was a slight change in seeing gamification leading to more competition. The competitiveness had the teachers see gamification in either a negative or a positive way.

Implications of the Findings

During the implementation, teachers had several different experiences and challenges. The challenges ranged from minor to much larger. That said, there were a couple of aspects connected to the research which lend to teachers having a more positive experience. Teachers who had a more positive experience connected the gamification to their curriculum and allowed the students to have more agency. The students were able to see the instantaneous feedback and thus they were more motivated to make changes. This idea connected Cheong et al. (2014) who stated that Classcraft's progression bar and leaderboard provided immediate feedback. In this research project, the teachers who did not place the leaderboard on the board or provided that instantaneous feedback in the moment did not see the student motivation. This was further confirmed through Sanchez et al. (2017).

Sanchez et al. (2017) found that giving students the ability to make decisions based off information (leaderboard and feedback) allows students to grow in their competency. This is important because "[competency] is a key aspect of academic motivation" (Sanchez et al., 2017, p. 510). Participants who used the volume meter and placed the leaderboard on the board saw the students being more competent and thus having more motivation.

The professional development did play a role in the effectiveness of the system and the self-concept of the teachers. Teachers noted that the new chapter system in Classcraft made it easier to use. Several participants noted that the chapter system allowed for an easy entry point into it. That they did not feel overwhelmed by the different features that were being provided to them such as the health points and higher-level features. They noted that they could use as much or as little of the system and the students could take their character to another.

The research project set out to see if there was a change in the perceptions that Fisher et al (2014) noted in her study. The quantitative data showed small changes in the perceptions of gamification in the classroom, but it was not significant enough to say for sure. The lack of significance could be attributed to the implementation process. Teachers needed more time with the system and the implementation to be set for their context (longer use and throughout the semester). This would allow for the teachers to engage with the system when they needed to use it. The qualitative data showed mixed perceptions by the end of the research project. This was connected to the experience of the teachers. If teachers had a positive experience, then they were left with positive perceptions of the specific gamified framework and the opposite was true for the participants. For example, participant #3 stated that she would not be using Classcraft in the future. This was connected to some of the short comings and seeing the pointsification of the system. Whereas, other teachers, such as participant #6 has continued to use the system because she only saw the positives of the experience.

Recommendations

The research project set out to gather the experience of teachers implementing gamification in their classroom over a two-week period. It was to draw connections between the self-concept of teachers and proper professional development, and it was to see if beliefs and perceptions about the system could change if the variables were right. With such a short amount of time, the experience was not the perfect representation of the teacher experience. For the future, it should be expected for the implementation to take one semester. This will allow the system to be organically brought in when the context calls for it. Some of the negatives found in the interviews were that the system seemed inorganic and did not allow for the students to authentically respond to the situations.

Teachers noted in their interviews the importance of being able to use the system over the summer to get the full effect out of it. Initially, all professional development would take place during the summer of the 2021-2022 year, but restraints did not allow this to happen. Teachers learned about the system two weeks after school had started. Additionally, teachers implemented the system the day after they moved into a new space. This further created technology and time constraints on the participants. For the future, the professional development and ability to create the classes should take place over the summer to allow the teachers to connect their framework to the curriculum.

The professional developments should be spaced further apart. In one of the interviews, a participant noted that the second professional development was not as effective because they had not started implementing the system. In the original framework of the gamified system, it was not separated by chapters. Participants were able to use all the tools right from the start. The original idea for the second professional development was to have all the classes built and have teachers run a professional development lab to test out all the features. But with the current system (implemented last spring), several features and tools were locked until the teachers started implementing it. It's a recommendation for research implementing future projects using Classcraft's system to set the second professional development halfway through the process. This would allow for teachers to have an entry point into the program (current chapter system), run the program in their context, and then see new features that they might not be knowledgeable of (boss battles and health points). Because of the timeline for the implementation (including the professional development), the quantitative data was not statistically significant. By allowing teachers to learn about the system over summer, have several months of implementation, and be measured several months a part, the data will be clearer for future research projects connected to gamification.

Considerations for Further Research

An idea that came up was the effectiveness of having teams implementing the system. There is very little research that has been completed on whole school roll outs of gamification (or Classcraft). Measuring the effectiveness of grade level or school-wide implementation would shed light on if gamification is more effective when a whole school works together to implement the system. Research can also be completed on different methods used on the school implementation such as having a school store, school powers, school house team to create synergy beyond the team or grade level. A second consideration is further research on different grade levels. At the middle levels, teachers seem to have more success. While at the higher levels, teachers used the system more sparingly. Further research should be conducted on if the grade levels have more of an effect on the success of the implementation of the system and the perceptions of the teachers using the system in their classes.

Conclusion

There were a number of different experiences throughout the research project. Some of the teachers had a positive experience, some of the teachers had an average experience, and others had a challenging one. These experiences were connected to instantaneous feedback and allowing the students to have an agency to make decisions. The experience was connected to teachers embedding the system into their curriculum. By the end of the research project, the quantitative data showed that teachers' knowledge and beliefs about gamification had changed. Some had a more positive view while others saw the negatives of the system.

The professional development and rollout of the system had both positives and negatives. The chapter system allowed teachers to have an easy access point, but the constraints of the research project limited the ongoing development. By not having an effective second professional development, participants were not completely aware of all the tools or ways to give students instantaneous feedback. There were missed opportunities throughout the research project.

Teachers all noted how gamification was another tool they could use for their context. That gamification was a useful strategy to drive student motivation and student success. Gamification has been shown to be an effective tool, but teachers are not adopting the system into their classrooms. This can be connected to the self-concept or the context of the implementation. The research project set out to demystify gamification and how to properly implement it. By the end of the project, the participants noted: "I mean, it's a kind of like a change. It's a good change, I suppose. Because we are competing with further attention with so many different things than we were years ago. I think that we need to have new tools."

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