

Gamification In The Teaching Process In International Schools In Bangkok, Thailand

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Abstract: Gamification is a fairly new concept that involves using game elements in non-game contexts. Living in the world that faces a lot of distractions makes people consider their goals and actions. The main objective of the research is to explore gamification in the teaching process in International Schools in Bangkok, Thailand. The study takes a descriptive approach and focuses on the extent of application of gamification to the teaching process, as well as the level of seriousness of problems on the use of gamification in the classroom. The extent of application of gamification to the teaching process provides insights on which elements of gamification are teachers often being used in the class. In the meantime, the level of seriousness of problems on the use of gamification in the classroom describes the barriers that teachers encounter gamifying in class. Combined together, the extent of application of gamification to the teaching process and the level of seriousness of problems on the use of gamification in class open up the discussion that serves as a solid basis for answering our hypotheses. The research results suggest that there's a few elements that commonly use and apply in teaching. In order to discover what elements are present in the teaching process and the problems encountered, it is essential to evaluate which elements of gamification are actually being used as well as the specific problems that occur. The results reveal that teachers often applied gamification elements in the teaching process and the results also reveal that serious problems related to gamification were encountered.

Index Terms: Gamification, teaching with games, gamified

1. INTRODUCTION

Games have been used for many years inside and outside of the classroom. It is a common aspect of many people's lives especially students that are in elementary school. If you ask kids, "What is work?" Many of them will answer, "assignments, homework, project, school!" But if you ask them, "What is play?" Most of them will say, "Games, PE, Video games, Lego, etc." Their answer tells us something interesting. Teachers and administrators, on the other hand, have it a little backward given that students are already surrounded by technology and have an ever-decreasing attention span. This is why many teachers are looking into new tools and techniques including games in various forms in the classroom, outside the classroom and in the digital space. Gamification is a fairly new concept and approach to education. It incorporates elements of a game in educational environments. It has been shown that gamification can increase motivation and learning yet its application in educational contexts yield conflicting results. It is important to understand what elements of gamification can yield favorable results so that it can be properly adopted into the classroom [1]. With the advent of technology, teachers have a bigger challenge than ever in involving the students, challenging them, stimulating their interest, retaining attention and maintaining their positive attitude [2]. Technology doesn't have to be considered a hindrance but an opportunity - another tool to add to a teacher's arsenal of teaching tools.

Although we all have become increasingly dependent upon information and communication technology, especially in the International School where students are provided with internet connectivity, laptop computers, etc., many of us are ill-equipped to use it properly nor use it as a tool to motivate or encourage students to be excited to learn. Without meaningful engagement, these technologies would just be a hindrance

[3]. Another issue arising is that students don't have a strong willingness to learn or learn with enthusiasm. If presented with something that is long, requiring a specific or complex task, involves much thinking and work, they begin to show insufficient interest and or begin to struggle to finish [4]. For example, when students are asked to play a game and they die in the game or did not achieve the task, they will say "arrrrggghhh, I need to try again!" but when they are asked to write an essay or work on a project, and they fail they will say "I'm not doing that again." Gamification, like games, can create their own cultures and identities that players must become a part of, allowing students to smoothly step out of their comfort zones [5]. Gamification allows students to have a safe place to learn from their mistakes and failures and can be used as a platform to teach how to fix the problems they encounter [6]. Since gamification has the ability to change behaviors by implementing steps including small manageable tasks, building complexity over time, having a group that all have the same goal or goals, and repetition or practice during the building knowledge [7], it has the potential to empower students to form and create their own intrinsic motivation. We've seen gamification already in a variety of settings: completing a punch card to win free items, receiving a badge or even insignia for doing something so friends can check out where we are at in a game, or expanding our profiles online to bring the "completion bar" up to 100%. Gamification has even worked its way into many different industries and the idea behind it is to encourage loyalty to the brand. It begs the question, how is gamification impacting education? Gamification is not all just fun. It can be about finding solutions to serious problems [8]. It also doesn't have to be always using technology as well as many will initially think. As already mentioned, gamification, in any form, increase motivation through engagement [9]. Nowhere else is this more important than education. Now what does gamification look like in schools? Specifically, what does gamification look like in an international school in Bangkok? Are teachers gamifying the entire lesson or parts? As there are many elements, mechanics, ways of gamification and many different possible factors, we want to get a clearer picture of gamification in the teaching process of teachers in international schools in Bangkok, Thailand. There are a number of international

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schools rising up in Bangkok in recent years. Where there were a few, now there's about 200, and there's more to come. This going to be a challenge for every new school to differentiate with all the choice parents and students have on which school they will go to.

1.1 STATEMENT OF THE PROBLEM

This study will bring to light the gamified education approach of the teachers in International School in Bangkok, Thailand. Specifically, it will answer the following questions: (1) What is the profile of the teachers in international schools in Bangkok, Thailand in terms of the following: Sex; Age; Highest Educational attainment; Bachelor's degree; Years of Teaching Experience; Main subject currently teaching; Grade levels currently teaching; No. of trainings, workshops, or conferences attended related to teaching; Hobbies (2) What is the extent of application of gamification to the teaching process as to the following elements: General, Schedule, Socializer, Free Spirit, Achiever, Philanthropists, Disruptor, Player (3) What is the level of seriousness of problems on the use of gamification in the classroom? (4) Is there a relationship in the extent of application of gamification by the teachers and their profile variables? (5) Is there a relationship in the level of seriousness of problems encountered by the teachers and their profile variables?

1.2 SCOPE AND DELIMITATION

The general intent of this study is to know the different gamification approaches of teachers in international schools in Bangkok, Thailand. The scope of the study is to identify the profile, skills of the teachers, approach, and practices in gamification. This study also correlates the practices and skills to the profile. The study is limited to the gamification approach of the teachers in 100 international schools specifically in the area of Bangkok. The study will focus on teachers teaching grade levels 1-12 using either British, Singaporean, American, IB, Canadian and Australian educational system. This study will mainly identify and assess different factors that affect gamification approaches being used by teachers and propose possible modification of the approach.

2. METHODOLOGY

2.1 RESEARCH METHOD

This part presents the research methodology to be adopted by this study. The research methodology will include a discussion of the research design, the respondents of the study, sampling design, instrumentation and validation, data gathering procedures and statistical treatment. The descriptive method of research will be used in the study.

2.2 RESPONDENTS OF THE STUDY

Snowball sampling will be used for selection of participants [10]. We are using this sampling method as it is often used when it is not possible to identify those who might fall into the project's category of interest. The author will forward the link to the online survey questionnaire to teachers in international schools in Bangkok, Thailand encouraging them to both take the online survey and to forward the link to other teachers as well. The survey questionnaire will serve as the main instrument of the study. Content validity will determine the certainty to which content or topic of the questionnaires are

truly representative of the study and aspects of the study to be measured.

2.3 RESEARCH INSTRUMENTS

A questionnaire was employed to collect data on the knowledge, skills and experience in gamification. It consisted of four sections: Section 1 (profile); Section 2 (elements used in the application of gamification); Section 3 (level of seriousness on the use of gamification in the classroom). For the purpose of the study, the questions given in the questionnaire were directly related to the teacher's level of competency to use technology either hardware or software, their experiences in gamification and implementation. Content validity will determine to ascertain the extent to which the content or topic of the questionnaire is truly representative of the content of the main idea. It involved, essentially, the systematic examination of the items to determine whether it covers a representative sample to be measured. Five experts will validate the instrument and these experts are not part of the panel of defense in the situation.

2.4 DATA GATHERING PROCEDURE

When the questionnaire has been promoted as a valid instrument and deemed ready for data gathering, the researcher will prepare a letter to all international schools in Bangkok, Thailand for permission to administer the questionnaire. Once approval has been issued, it will then be administered to the respective respondents. The retrieval of the questionnaire will be done using an online surveying tool (e.g. Survey Monkey, Google Forms, etc.). The questionnaire will be designed and conducted to gather the most relevant data needed in the research.

2.5 STATISTICAL TREATMENT OF DATA

To elicit significant results and findings, we will employ statistical tools to analyze the gather data. This will ensure that the results we get is true to the nature of the study, situation and conditions. All statistical computations will be done using Statistical Package for Social Sciences (SPSS) program [11]. Frequency and percentages were used to present the profile of the teachers in international schools in Bangkok, Thailand in terms of sex, age, highest educational attainment, bachelor's degree, years of Teaching Experience, main subject currently teaching, grade levels currently teaching, number of training, workshops, or conferences attended related to teaching, and hobbies. Mean was used to describe the extent of application of gamification to the Teaching Process as to elements like general, schedule, socializer, free spirit, achiever, philanthropists, disruptor, and player.

Scale	Mean Scale	Descriptive Equivalent
5	4.51 - 5.00	Always
4	3.51 - 4.50	Often
3	2.51 - 3.50	Sometimes
2	1.51 - 2.50	Rarely
1	1.00 - 1.50	Never

Mean was used to describe the level of seriousness on the use of gamification in the classroom.

Scale	Mean Scale	Descriptive Equivalent
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5	4.51 - 5.00	Very highly serious
4	3.51 - 4.50	Highly serious
3	2.51 - 3.50	Serious
2	1.51 - 2.50	Moderately serious
1	1.00 - 1.50	No serious

The contingency coefficient, a variant of chi-square, was used to determine the significant difference between the profile of the teachers and the extent of application of gamification [12]. The contingency coefficient was used to determine the significant difference between the profile of the teachers and their problems encountered.

3. RESULTS AND DISCUSSION

This chapter presents the data which were gathered, analyzed and interpreted. The presentation, analysis, and interpretation followed the sequential order of the problems stated in the first chapter.

3.1 DEMOGRAPHIC PROFILE OF THE RESPONDENTS

The demographic characteristics of the respondents included in this study are sex, age, highest educational attainment, bachelor's degree, years of teaching experience, main subject currently teaching, grade levels currently teaching, number of trainings or workshops attended related to teaching, and hobbies.

Table 1:
Profile of the Teachers

Profile Variables	Frequency	Percentages
Sex		
Male	12	42.9
Female	16	57.1
Total	28	100
Age		
21 to 30 years old	4	14.3
31 to 40 years old	19	67.9
41 to 50 years old	5	17.9
Total	28	100
Highest educational attainment		
Bachelor's degree	20	71.4
Master's degree	7	25
Doctoral degree	1	3.6
Total	28	100
Bachelor's degree		
Information Tech/Com Sci	4	14.3
Mathematics	1	3.6
Education	14	50.0
Theology	2	7.1
Nursing	3	10.7
Others	4	14.3
Total	28	100
Years of teaching experience		
1 to 3 years	4	14.3
4 to 6 years	4	14.3
7 to 10 years	7	25.0
11 to 14 years	7	25.0
More than 15 years	6	21.4
Total	28	100
Main subject currently teaching		
ICT	5	17.9
Mathematics	5	17.9
English	9	32.1
Science	3	10.7
PE/Music	5	17.9
Biblical Studies	1	3.6
Total	28	100
Grade levels currently teaching		
College	5	17.9
High School	5	17.9
Kindergarten to high school	4	14.3
Grade 1 to 6	10	35.7
Kindergarten	4	14.3
Total	28	100
Number of trainings, workshops attended related to teaching		
1 to 3	7	25.0
4 to 6	2	7.1
7 to 10	6	21.4
11 to 14	3	10.7
More than 15	10	35.7

Total	28	100
Hobbies		
Listening to music	7	25.0
Playing games/sports	6	21.4
Reading books	6	21.4
Watching TV/movies	5	17.9
Traveling	4	14.3
Total	28	100

3.1.1 Sex

It could be observed from the table that 16 or 57.1% of the teacher respondents are female and 14 or 42.9% are males. This finding tells us that there are about the same amount of female respondents as male respondents.

3.1.2 Age

As to age, 19 or 67.9% of the respondents belong to age bracket 31 to 40 while others are age 21 to 30 (4 or 14.3%) and 41 to 50 years old (5 or 15.9%). This gathered data is quite interesting as it tells us that we have a wide range of respondents with regards to age.

3.1.3 Highest Educational Attainment

When it comes to highest educational attainment, 20 or 71.4% of the respondents earned bachelor's degree while others are master's degree holders (7 or 25.0%) and doctoral degree graduates (1 or 3.6%). This tells us that among the respondents only a few have postgraduate studies and most are undergraduates.

3.1.4 Bachelor's Degree

For the bachelor's degree earned, 14 or 50.0% of the teachers earned Education course and the rest completed Information Technology (4 or 14.3%), Nursing (3 or 10.7%), Theology (2 or 7.1%), and Mathematics (1 or 3.6%). This connotes that majority of the respondents are professional educators and the rest are specialty teachers.

3.1.5 Years in Teaching Experience

For the years of teaching experience, 7 or 25.0% of the respondents are serving the education sector for 7 to 10 years and 11 to 14 years, 6 or 21% of the respondents are serving the education sector for more than 15 years, and 4 or 14.3% of the respondents have been serving the education sector for 1 to 3 years and 4 to 6 years. The data tells us that we have a wide range of experience levels from beginner to well-experienced teachers.

3.1.6 Main Subject Currently Teaching

With regards to main subject currently teaching, 9 or 32.1% of the respondents are teaching the English subject while others teach Information and Communications Technology, Mathematics, Physical Education and Music (5 or 17.9%), Science (3 or 10.7%), and Biblical Studies (1 or 3.6%). We

expected to have respondents from teaching different subjects to have variety in data gathered.

3.1.7 Grade Levels Currently Teaching

For the grade levels currently teaching, 10 or 35.7% of the teachers are teaching Grade 1 to 6 while 5 or 17.9% of them are teaching college and high school students and 4 or 14.3% are teaching kindergarten to high school.

This indicates that most of the respondents deal with first to sixth graders and the rest are divided into teaching college or high school students and kindergarten to high school students.

3.1.8 Number of Trainings, Workshops Attended Related to Teaching

As to the number of trainings, workshops, and conferences attended related to teaching, 10 or 35.7% of the respondents have more than 15 trainings attended while others have less than three trainings (7 or 25.0%), 7 to 10 (6 or 21.4%), 11 to 14 (3 or 10.7%) and 4 to 6 (2 or 7.1%).

The number of respondents who have attended 1 to 3 trainings or workshops related to teaching maybe due to several factors, some of which may include: lack of financial support from school and personal difficulties or availability. It might also be due to the fact that a lot of good, relevant and up-to-date information, tutorials and trainings are available online.

3.1.9 Hobbies

For their hobbies, 7 or 25.0% of the teachers are listening to music, 6 or 21.4% are playing games or sports and reading books, 5 or 17.9% are watching TV or movies, and 4 or 14.3% make travel as a hobby.

This indicates that most of the respondents are avid listeners of music, plays games and/or sports as well as reads books. Other respondents watch movies and travel as a hobby.

3.2 THE EXTENT OF APPLICATION OF GAMIFICATION TO THE TEACHING PROCESS

The elements of gamification considered in this study are general, schedule, socializer, free spirit, achiever, philanthropist, disruptor, and player. These are measured in terms of the frequency in which the corresponding elements of gamification have been applied. The data gathered along this concern are presented in the succeeding tables.

Table 2:
Extent of Application of Gamification to the Teaching Process as to General Element

General	Never		Rarely		Sometimes		Often		Always		Weighted Mean	Descriptive Equivalent
	f	%	f	%	f	%	f	%	f	%		
On-boarding / tutorials	1	3.6	5	17.9	7	25.0	10	35.7	5	17.9	3.46	Often
Signposting	4	14.3	5	17.9	7	25	8	28.6	4	14.3	3.10	Sometimes
Loss Aversion	0	0.0	6	21.4	8	28.6	6	21.4	8	28.6	3.57	Sometimes
Progress / Feedback	0	0.0	2	7.1	4	14.3	13	46.4	9	32.1	4.04	Often
Theme	1	3.6	4	14.3	10	35.7	9	32.1	4	14.3	3.39	Sometimes

Narrative / Story	1	3.6	3	10.7	9	32.1	11	39.3	4	14.3	3.50	Often
Curiosity / Mystery Box	1	3.6	4	14.3	7	25.0	10	35.7	6	21.4	3.57	Often
Time Pressure	0	0.0	2	7.1	8	28.6	11	39.3	7	25.0	3.82	Often
Scarcity	2	7.1	6	21.4	11	39.2	5	17.9	4	14.3	3.11	Sometimes
Strategy	0	0.0	5	17.9	5	17.9	11	39.3	7	25.0	3.71	Often
Flow	4	14.3	1	3.6	6	21.4	10	35.7	7	25.0	3.54	Often
Consequences	2	7.1	3	10.7	6	21.4	10	35.7	7	25.0	3.61	Often
Investment	0	0.0	2	7.1	9	32.1	11	39.3	6	21.4	3.75	Often
Total											3.55	Often

General elements of gamification includes on-boarding / tutorials, signposting, loss aversion, progress/feedback, theme, narrative/story, curiosity / mystery box, time pressure, scarcity, strategy, flow, consequences and investment. It could be gleaned from the table that the progress/feedback got the highest weighted mean among the indicators of application of gamification to the Teaching Process along the general

element. It has weighted mean of 4.04 with descriptive equivalent of often. On the other hand, scarcity and signposting earned the lowest weighted mean or 3.10 with descriptive equivalent of sometimes. Overall, the respondents' extent of application of gamification to the Teaching Process as to the general elements has a descriptive equivalent of often as shown in the overall mean of 3.55.

Table 3
Extent of Application of Gamification to the Teaching Process as to Schedule Element

Schedule	Never		Rarely		Sometimes		Often		Always		Weighted Mean	Descriptive Equivalent
	f	%	f	%	f	%	f	%	f	%		
Random Rewards	3	10.7	0	0.0	5	17.9	11	39.3	9	32.1	3.82	Often
Fixed Reward Schedule	2	7.1	0	0.0	6	21.4	14	50.0	6	21.4	3.79	Often
Time Dependent Rewards	2	7.1	1	3.6	12	42.9	9	32.1	4	14.3	3.43	Often
Total											3.68	Often

Schedule elements of gamification includes random rewards, fixed reward schedule, and time dependent rewards. Based from the table above, random rewards got the highest weighted mean of 3.82 while time dependent rewards has the lowest weighted mean of 3.43 with both fixed reward schedule and time dependent rewards having a descriptive equivalent

of often. Overall, the respondents' extent of application of gamification to the teaching process as to the schedule elements has a descriptive equivalent of often as shown in the overall mean of 3.68. This means that the respondents often rewards their students and has random rewards more than fixed and time dependent rewards.

Table 4:
Extent of Application of Gamification to the Teaching Process as to Socializer Element

Socializer	Never		Rarely		Sometimes		Often		Always		Weighted Mean	Descriptive Equivalent
	f	%	f	%	f	%	f	%	f	%		
Guild / Teams	1	3.6	3	10.7	6	21.4	12	42.9	6	21.4	3.68	Often
Social Network	2	7.1	6	21.4	4	14.3	8	28.6	8	28.6	3.50	Often
Social Status	2	7.1	3	10.7	5	17.9	14	50.0	4	14.3	3.54	Often
Social Discovery	1	3.6	4	14.3	7	25.0	11	39.3	5	17.9	3.54	Often
Social Pressure	1	3.6	1	3.6	13	46.4	10	35.7	3	10.7	3.46	Often
Competition	0	0.0	1	3.6	7	25.0	10	35.7	10	35.7	4.04	Often
Total											3.63	Often

Socializer includes guild / teams, social network, social status, social discovery, social pressure, and competition. For the extent of application gamification with socializer as an element, competition earned the highest weighted mean of 4.04 while social pressure has the lowest weighted mean of 3.46 with descriptive equivalent of often. In general, the

teacher respondents frequently choose often to describe their extent of application of gamification along socializer as an element with an overall mean of 3.63. This means that the respondents often have socializer elements in the teaching process and often have competition in the lesson more than other types of socializer elements.

Table 5:
Extent of Application of Gamification to the Teaching Process as to Free Spirit Element

Free Spirit	Never		Rarely		Sometimes		Often		Always		Weighted Mean	Descriptive Equivalent
	f	%	f	%	f	%	f	%	f	%		
Exploration	0	0.0	2	7.1	6	21.4	14	50	6	21.4	3.86	Often
Branching Choices	0	0.0	3	10.7	9	32.1	13	46.4	3	10.7	3.57	Often
Easter Eggs	1	3.6	8	28.6	11	39.3	4	14.3	4	14.3	3.07	Sometimes
Unlockable /Rare Content	4	14.3	5	17.9	7	25.0	7	25.0	5	17.9	3.14	Sometimes
Creativity Tools	1	3.6	1	3.6	7	25.0	10	35.7	9	32.1	3.89	Often
Customization	3	10.7	2	7.1	7	25.0	8	28.6	8	28.6	3.57	Often
Total											3.53	Often

Free Spirit element includes exploration, branching choices, easter eggs, unlockable/rare content, and customization. As to extent of application of gamification with free spirit as an element, creativity tools earned the highest weighted mean of 3.89 with a descriptive equivalent of often while easter eggs has the lowest weighted mean of 3.07 with descriptive equivalent of sometimes.

Based from the table, the frequently answered scale is often. This describes the extent of application of gamification of teachers using free spirit as an element. Also based on the table students are often given creativity tools with the chance to create their own content and express themselves for personal gain, for pleasure or to help other people. Closely following is exploration where students, based on the table, are given a chance to explore.

Table 6:
Extent of Application of Gamification to the Teaching Process as to Achiever Element

Achiever	Never		Rarely		Sometimes		Often		Always		Weighted Mean	Descriptive Equivalent
	f	%	f	%	f	%	f	%	f	%		
Challenge	0	0.0	0	0.0	7	25.0	10	35.7	11	39.3	4.14	Often
Certificate	2	7.1	4	14.3	6	21.4	7	25.0	9	32.1	3.61	Often
Learning/New Skills	0	0.0	0	0.0	9	32.1	11	39.3	8	28.6	3.96	Often
Quests	1	3.6	5	17.9	8	28.6	8	28.6	6	21.4	3.46	Often
Levels / Progression	1	3.6	3	10.7	10	35.7	8	28.6	6	21.4	3.54	Often
Boss Battles	3	10.7	4	14.3	8	28.6	8	28.6	5	17.9	3.29	Sometimes
Total											3.67	Often

Achiever element includes challenge, certificate, learning/new skills, quests, levels/progression, and boss battles. For the extent of application of gamification along achiever as an element, challenges got the highest weighted mean of 4.14 with descriptive equivalent of often while boss battles has the lowest weighted mean of 3.29 with descriptive equivalent of sometimes. This means that students often face challenge to

help keep them interested, to test their knowledge and allow them to apply their knowledge. In general, the respondents often applied gamification with achiever as an element with an overall mean of 3.67 and a descriptive equivalent of often. This is based on the number of times the respondents choose often to describe this kind of application in the teaching process.

Table 7:
Extent of Application of Gamification to the Teaching Process as to Philanthropist

Philanthropists	Never		Rarely		Sometimes		Often		Always		Weighted Mean	Descriptive Equivalent
	f	%	f	%	f	%	f	%	f	%		
Meaning/Purpose	0	0.0	2	7.1	9	32.1	11	39.3	6	21.4	3.57	Often
Care - taking	1	3.6	5	17.9	9	32.1	5	17.9	8	28.6	3.50	Often
Access	2	7.1	4	14.3	8	28.6	6	21.4	8	28.6	3.50	Often
Collect and Trade	3	10.7	4	14.3	6	21.4	9	32.1	6	21.4	3.39	Sometimes
Gifting / Sharing	3	10.7	3	10.7	8	28.6	8	28.6	6	21.4	3.39	Sometimes
Sharing Knowledge	0	0.0	2	7.1	10	35.7	5	17.9	11	39.3	3.89	Often

Total	3.57	Often
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Philanthropist element includes meaning/purpose, care-taking, access, collect and trade, and sharing knowledge. The table above shows that the sharing of knowledge has the highest weighted mean of 3.89 with descriptive equivalent of often while collect and trade and gifting has the lowest weighted mean of 3.39 with descriptive equivalent of sometimes. This

means that often students have the chance to share their knowledge to help others with the sharing of the knowledge itself as the reward. To sum, the respondents frequently answered the scale often to describe their application of gamification along philanthropists as an element with an overall mean of 3.57 and a descriptive equivalent of often.

Table 8:
Extent of Application of Gamification to the Teaching Process as to Disruptor Element

Disruptor	Never		Rarely		Sometimes		Often		Always		Weighted Mean	Descriptive Equivalent
	f	%	f	%	f	%	f	%	f	%		
Innovation Platform	2	7.1	6	21.4	5	17.9	6	21.4	9	32.1	3.50	Often
Voting/Voice	0	0.0	2	7.1	9	32.1	11	39.3	6	21.4	3.75	Often
Development Tools	2	7.1	4	14.3	6	21.4	8	28.6	8	28.6	3.57	Often
Anonymity	4	14.3	6	21.4	7	25.0	9	32.1	2	7.1	2.96	Often
Light Touch	6	21.4	4	14.3	9	32.1	7	25.0	2	7.1	3.32	Sometimes
Anarchy	6	21.4	4	14.3	9	32.1	7	25.0	2	7.1	2.82	Sometimes
Total											3.32	Sometimes

Disruptor element includes innovation platform, voting/voice, development tools, anonymity, light touch, and anarchy. The table above revealed that voting has the highest weighted mean of 3.75 with descriptive equivalent of often while anarchy has the lowest weighted mean of 2.82 with

descriptive equivalent of sometimes. Also, the respondents frequently chose often to describe their extent application of gamification with disruptor as an element. Overall, the respondents sometimes gamification with disruptor as an element with an overall mean of 3.32 and a descriptive equivalent of sometimes.

Table 9:
Extent of Application of Gamification to the Teaching Process as to Player Element

Player	Never		Rarely		Sometimes		Often		Always		Weighted Mean	Descriptive Equivalent
	f	%	f	%	f	%	f	%	f	%		
Points/Experience Points	2	7.1	1	3.6	4	14.3	13	46.4	8	28.6	3.86	Often
Physical Rewards / Prizes	1	3.6	3	10.7	6	21.4	8	28.6	10	35.7	3.82	Often
Leaderboards / Ladders	4	14.3	3	10.7	3	10.7	12	42.9	6	21.4	3.46	Often
Badges / Achievements	2	7.1	4	14.3	6	21.4	9	32.1	7	25.0	3.54	Often
Virtual Economy	7	25.0	4	14.3	4	14.3	9	32.1	4	14.2	2.96	Sometimes
Lottery / Game of Chance	5	17.9	7	25.0	4	14.3	7	25.0	5	17.9	3.00	Sometimes
Total											3.44	Often

Player element includes points/experience points, physical rewards/prizes, leaderboards/ladders, badges/achievements, virtual economy, and lottery/game of chance. The table above shows that points/experience points has the highest weighted mean of 3.82 while virtual economy has the lowest weighted mean of 2.96 with both having the descriptive equivalent of often. The table also denotes that points are often given as feedback mechanic and physical rewards/prizes closely follow. Overall, the respondents applied gamification often based on the number of times the respondents chose often to describe

their extent of application of gamification with player as an element with an overall mean of 3.44 and a descriptive equivalent of often.

3.3 THE LEVEL OF SERIOUSNESS OF PROBLEMS ON THE USE OF GAMIFICATION IN THE TEACHING PROCESS

The level of seriousness of problems encountered on the use of gamification in the teaching process was measured using a table mean scale with values as follows: 1 - not serious; 2 - moderately serious; 3 - serious; 4 - highly serious; 5 - very highly serious.

Table 10:
Level of Seriousness of Problems on the use of Gamification in the Teaching Process

List	Not Serious		Moderately Serious		Serious		Highly Serious		Very Highly Serious		Weighted Mean	Descriptive Equivalent
	f	%	f	%	f	%	f	%	f	%		
Lack of financial support	3	10.7	6	21.4	6	21.4	8	28.6	5	17.9	3.21	Serious
Lack of Technology Resources	7	25.0	5	17.9	6	21.4	7	25.0	3	10.7	2.79	Serious
Implementation, Methodology and Techniques	1	3.6	6	21.4	8	28.6	9	32.1	4	14.3	3.32	Serious
Lack of interest/ engagement from students	10	35.7	7	25.0	5	17.9	3	10.7	3	10.7	2.36	Serious
Lacking Activities, Task and Assignment	4	14.3	8	28.6	10	35.7	4	14.3	2	7.1	2.72	Moderately Serious
There is limited Technical Support (training, coaching, hardware assistance, etc.)	4	14.3	5	17.9	4	14.3	12	42.9	3	10.7	3.18	Serious
Unconducive classroom Setting (environment, size, layout, climate, etc.)	7	25.0	2	7.1	2	7.1	10	35.7	7	25.0	3.29	Serious
Lack of Materials (paper, marker, whiteboard, timer, prizes, etc.)	8	28.6	6	21.4	5	17.9	5	17.9	4	14.3	2.68	Serious
Internet Connectivity Issues	6	21.4	7	25.0	7	25.0	3	10.7	5	17.9	2.79	Serious
Lack of Management Support	2	7.1	10	35.7	7	25.0	3	10.7	6	21.4	3.04	Serious
Total											2.94	Serious

encountered related to gamification.

The table above flaunts the findings on the level of seriousness of the problems encountered on the use of gamification in the teaching process as supplemented by the respondents to each of the listed problems in the table. Based from the table, it revealed that classroom setting has the highest weighted mean of 3.29 with descriptive equivalent of serious while the lack of interest of students has the lowest weighted mean of 2.36 with descriptive equivalent of moderately serious. The table also implies that respondents considers most of the problems as serious apart from one. Overall, the respondents encountered serious problems related to gamification. This is based on the number of times the respondents chose serious to describe the problems they

3.4 EXTENT OF APPLICATION OF GAMIFICATION BY THE TEACHERS AND PROFILE VARIABLES

The table below brings forth the findings on the relationship in the extent of application of gamification by the teachers and profile variables. Visual investigation of the table below indicates that the relationship in the extent of application of gamification by teachers in the teaching process and their profile variables is not significant as shown by the p-value obtained which is higher than .05. This finding implies that the profile variables are not factors in defining the extent of application of gamification in the teaching process.

Table 11:
Relationship in the Extent of Application of Gamification by the Teachers and Profile Variables

Profile variables	Extent of application of gamification	
	Chi square static	Significance
Sex	.707	.308
Age	.806	.405
Highest educational attainment	.810	.348
Bachelor's degree	.908	.339
Years of teaching experience	.891	.275
Main subject currently teaching	.910	.243

Grade level currently teaching	.885	.439
Number of trainings, workshops or conferences attended related to teaching	.885	.437
Hobbies	.890	.301

3.5 LEVEL OF SERIOUSNESS OF PROBLEMS ON THE USE OF GAMIFICATION BY TEACHERS AND PROFILE VARIABLES

The table below draws out the findings in the relationship in the levels of seriousness of problem on the use of gamification by the teachers and profile variables. The table below indicates that the level of seriousness of problems on the use

of gamification by teachers in the teaching process and their profile variables is not significant as shown by the p-value obtained which is higher than .05. This finding implies that the profile variables are not factors in defining the level of seriousness of problems on the use of gamification by the teachers in the teaching process.

Table 12:

Relationship in the Level of Seriousness of Problems on the use of Gamification by the Teachers and Profile Variables

Profile variables	Seriousness of problems on the use of gamification	
	Chi square static	Significance
Sex	.627	.381
Age	.763	.254
Highest educational attainment	.786	.095
Bachelor's degree	.858	.682
Years of teaching experience	.854	.258
Main subject currently teaching	.884	.129
Grade level currently teaching	.839	.525
Number of trainings, workshops or conferences attended related to teaching	.843	.459
Hobbies	.834	.621

4. CONCLUSION AND RECOMMENDATION

4.1 CONCLUSION

Gamification could be a very useful tool for motivating students. It represents an innovative and engaging methodology to motivate students and enhance their teaching process. Through this research study we shed light on teachers' extent of use of gamification in the teaching process. One main conclusion of this research is that teachers use a lot of elements of gamification in the teaching process while experiencing serious problems. The respondents for this research consist of about the same amount of male and females, have ages that range from 21 to 50 years old but most of the respondents are between 31 to 40, mostly have bachelor's degree as their highest educational attainment and some have master's degree and doctoral degree, coming from various bachelor's degree and most of them specialize in education, consist of people coming from 1 to 3 years of teaching experience all the way to more than 15 years of experience, currently teaching a variety of subjects including: English, Mathematics, ICT, Science, PE/Music and Biblical Studies, Mostly teaching grades 1 to 6, most have attended more than 15 workshops/trainings related to teaching and have hobbies that included listening to music, playing games/sports, reading books, watching TV and movies as well as travelling. Based on the data gathered the profile of the respondents did not significantly prove affecting teachers' use

of gamification nor the elements of it. Based on the data gathered on the extent of application of gamification to the teaching process, most of the respondents often use elements of gamification where general elements are used often; schedule elements are used often; socializer elements are used often; free spirit elements are used often; achiever elements are used often; philanthropist are used often; disruptor elements are used sometimes; and player elements are used often. Based on the data gathered data the level of seriousness of problems on the use of gamification in the teaching process prove to be overall serious with most of the problems in the list having a serious descriptive equivalent with only one (lack of activities, task and assignment) having a moderately serious descriptive equivalent. Based on the data gathered, the extent of application of gamification by the teachers and profile variables is not significant. This proves that the profile variables are not factors in defining the extent of application of gamification in the teaching process. Based on the data gathered, the level of seriousness of problems on the use of gamification by teachers and profile variables is not significant. This finding implies that the profile variables are not factors in defining the level of seriousness of problems on the use of gamification by the teachers in the teaching process.

4.2 RECOMMENDATIONS

In the light of the findings and conclusions, the following recommendations are offered: Future studies may consider examining teachers' proficiency in using computers and

software or apps, particularly web-based apps. Future research may consider examining if teachers have access to CPD or continuing professional development and/or if they have a growth mindset and are supported by school administrators to grow in their field of specialization. School administrators should support their teachers and students by strengthening technical support team and providing the necessary technology resource to enhance the teaching and learning experience with regards to gamification. School administrators should also provide technical support by sending teachers to training, helping teachers implement gamification across different grade levels. Providing for an innovation coach, would already be of big help to think of ways to combat problems that teachers face in applying gamification. Future research should use other types of research methodology to find out other aspects that is brought about the use of gamification. Other types of sampling to confirm findings that has been brought up in this research might also be used.

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