

## A Gamified Module In The New Normal Classroom: A Randomized Block Research Design

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**ABSTRACT:** The COVID-19 pandemic has challenged every aspect of one's life, especially in the education setting. Educators are confronted with various challenges to be creative in delivering instructions despite several limitations caused by the pandemic. Thus, the gamification approach embedded in modular instruction in education is integrated by making each lesson interactive through progress trackers and badges in every game-based related activities to the lessons that have been used to sustain and enhance students' motivation and learning engagement in the modular setup through a conducted Randomized Block Research Design. In this paper, the objectives were to (1) determine the profile of the students in terms of the type of institution they belong to, sex, age, degree program, and the course they were enrolled in the 2<sup>nd</sup> Semester A.Y. 2019-2020. Second (2) it determined the assessment of the module in terms of three areas such as format, content, and gamified features of the module. It also (3) tested the significant difference of the mean assessment of the module when grouped according to profile so that the educators will know how to contextualize the gamified module for its possible improvement. Notwithstanding, the concluded integration of the aspects of the module in terms of the format, content, and gamified features were all highly received positively by the 279 purposive-conveniently sampled respondents who participated from a local college in Laguna and a state university in Manila from the College of Education. The format, content, and gamified features of the module were all with high regards, however, with some notable remarks including the module cover, color, and template, insufficiency of the illustrative examples, and the improvement of progress tracker, badges, incentive system, and the game-based activities related to the lessons. Also, there is no statistical difference in the perceived use of the gamified module in many areas implied that there is a consistent presentation of the three areas whether in the different institution, age brackets, sex orientation, year levels, degree program, and course taken except those of the format since education courses were oriented to instructional materials standards gave them the ability to assess it more comprehensively. Another significant assessment was traced to content and gamified features of the males since males are more exposed to games perhaps lead them the expectations to a more similar approach to the games they were exposed to. The study recommended that though they find the gamified module as an innovative tool and unique way of learning amid the pandemic, improvements in terms of the badges, the activities presented in the module, and some additional features of the real game such as real and more creative badges, leaderboards and incentive system. Indeed, the paper moves forward the field of knowledge through the enhanced gamified module of several courses that can be a design guide of other disciplines.

**Keywords:** Gamified Module, Format, Content, Gamified Features, Progress Tracker, Badges

### 1. INTRODUCTION

The COVID-19 pandemic has changed the world. Due to the nature of the virus, particularly how it is transmitted, it has altered human behavior, relations, and lifestyles, and had profound impacts on the economic, political, and cultural landscapes of societies across the world. To curb the spread of COVID-19, most governments have opted to employ quarantine protocols and temporarily shut down their educational institutions. Consequently, it also affected the teaching and learning experience at an unprecedented speed. This new scenario has forced our ability to cope with unknown technologies within a very short timeframe. Not only it has been a challenge in many ways but it has also been a learning opportunity to improve our skills regarding online teaching.

Teaching and learning happen through interaction, and this has been the biggest challenge: how to create opportunities for students to engage and interact between themselves and with the faculty where a face-to-face classroom setting is no longer the normal mode of teaching and learning. With this, the teacher has to be creative and innovative in thinking of teaching strategies or tools to be able to ensure that the students will still engage themselves

and sustain the interaction. Thus, the genesis of applying gamification in the learning modules to enhance student's learning, improve skills and get similar engagement as what other educational activities do.

Although gamification may be simply defined as incorporating games in the teaching-learning process, there are numerous ways to integrate it in education, specifically in learning modules. More so, the definition has evolved in several ways such as, "the process of making activities more game-like" (Werbach, 2014) or "the phenomenon of creating gameful experiences" (Hamari et al., 2014). This approach has gained popularity for educators, especially during the time of the COVID-19 pandemic where face-to-face activities are prohibited. Some of its implementations may be done by putting up a story timeline or task set in a particular lesson where the learner will gain something at the end of the activity, create badges or trophies with embedded benefits like additional points, or the student may opt to create his adventure during the whole lesson in a particular module. The vibrant color and the creative appearance of game elements and icons may also aid in keeping the learners' attention. These few steps may stimulate learner's imagination and somehow sustain their engagement in responding to the activities and lessons in the learning module.

Several studies have shown some of the advantages of integrating gamification in facilitating learning. (Looyestyn, et.al (2017) have shown that gamification "is effective in increasing engagement." As teachers, learners' engagement and modification of their behavior toward a positive outcome are of importance. The teacher must tickle the competitive, adventure-seeking, and motivation-driven aspect of the learner to be able to sustain the drive to learn the lessons, to perform well in the activities, and to retain the knowledge discussed in the learning modules. Also, as stated in (Buhagiar & Leo, 2018) effective gamified learning modules may "enhance learners' confidence."

Accordingly, this study focuses on integrating the gamified features of a face-to-face gamification technique to a modular approach by including a progress tracker in the module in which the learners have the guide what page or where the part in the module the students stopped, set of badges with corresponding incentives and equivalent coin counters that can be used in purchasing items in the created stores.

### 1.1. Research Objectives

The main goal of the study is to create an enhanced Gamified Module that may be a design guide for courses in Mathematics as well as for other disciplines. Specifically, it sought to answer the following objectives:

- i. To determine the profile of the respondents in terms of:
  - a) Type of institution;
  - b) Age;
  - c) Sex;
  - d) Year Level;
  - e) Degree program;
  - f) Course title.
- ii. To determine the respondents' assessment after using the gamified module in terms of the following three aspects namely:
  - a) Format of the module;
  - b) Content of the module;
  - c) Gamified feature of the module.
- iii. To determine if significant differences exist in the respondents' assessment after using the gamified module in terms of the three aspects when grouped according to profile.
- iv. To propose an Enhanced Gamified Module for a New Normal classroom.

### 1.2. Theoretical Framework

The study was anchored to three theories. These are Goal-Setting Theory by Edwin Locke, Expectancy Theory of Motivation pioneered by Edward Tolman continued by Victor Vroom and Adaptability Theory.

The Goal-Setting Theory is defined as the influence of setting goals on subsequent results. Individuals who set unique, difficult goals outperformed those who set general, simple goals, according to researcher Edwin Locke (Locke et al., 1986). Clarity, difficulty, engagement, feedback, and mission complexity are five fundamental concepts of goal-setting suggested by Locke. These five fundamental concepts played a major in the study since in a modular approach, well-defined achievable goals must be explicitly included because independence and minimal guidance were implemented hence, clarity fundamental concept of the goal-setting theory was anchored. Second, the challenge and commitment concepts of the theory were delivered because higher-order thinking skills and not the merely objective type of questions were crafted in the module while the commitment of giving time and focus was addressed. The fourth and fifth concept such as the feedback and task complexity was inclined in the modular approach since the interaction between the teacher and the learner are still required in the learning process due to task complexities. Theory of Adaptability by Super & Knasel (1979), originally is career adaptability in which individuals' ability to

adapt to changes seamlessly and retain the balance of their career roles while dealing with the transformation of their career roles is referred to as career adaptability but applying in the context of pandemic happening in this time, this theory still applies to education. The teachers and learners at the same time are fitting themselves to what is relatively needed amid the pandemic.

### **1.3. Scope and Limitations**

The study aimed to assess the use of the gamified module in a new normal classroom and hence limited only to those classes where the gamification features were integrated. The courses are the Understanding the Self, Trigonometry, Logic and Set Theory, Advance Statistics, Mathematics in the Modern World, Calculus 2, Assessment of Learning 2, and Komunikasyon sa Akademikong Filipino for the Second Semester of Academic Year 2019-2020 covering the Midterm and Final terms only. Due to the black and white distribution of the hard copies of the module, the supposedly colored badges and creative designs in the module where the gamification interface was failed to meet. Also, only virtual badges were given, manually monitored, and encoded via the instructor's excel file since the development of the software application cannot be covered and subject to Information Technology or Computer Science experts collaboration.

## **2. RESEARCH METHODS**

### **2.1. Research Design**

The design used in the study is the Randomized Complete Block Research Design (RCBD) as defined by Calmorin & Calmoran (2007) as a design to use if the respondents used were belong to multiple groups in which no controlled groups were assigned. Like the design used by Lanuza (2020) to compare pretest and posttest of the specialization courses in Mathematics from first-year to fourth-year college students which are similar to the present study but instead of comparing pre-test and post-test, the variables that were compared were the assessment on the used of the gamified features of the module concerning the profile. Since the main goal is to contextualize the module to be developed based on the profile with significance.

### **2.2. Respondents of the Study and Sampling Technique**

The respondents of the study were the college students officially enrolled in the City College of Calamba (CCC) and College of Education from the Unibersidad de Manila (UDM). These were the students purposive-conveniently sampled students in the classes of the four author-instructors during the second semester of the academic year 2019-2020. The sampling technique used was a combination of purposive and convenient sampling since not all students can be chosen as the respondents unless satisfying the criteria such as officially enrolled in the courses handled by the authors implemented with gamification in the module and those who evaluated the module at the end of the course via a google form.

### **2.3. Instruments of the Study**

The instruments utilized in the study were the drafted gamified modules for the two terms, i.e. Midterm and Finals since the Pandemic started amid March 2020 where the 2<sup>nd</sup> Sem., A.Y. 2019-2020 had been started and the preliminary term has just been ended. Now, the strategy conducted by the colleges to continue the unfinished semester caused by community quarantine and lockdown, Modular Instruction, and Independent self-pace learning were implemented. The modules then were gone through the scrutiny of the content and technical editors noted by the academic director before the vice president of academic affairs (VPAA) approved it for distribution and reproduction under the vice president of administration (VPA) office of the college. Whereas, the second instrument was a survey questionnaire with four parts such as the profile of the respondent, format, content, and gamified features of the module with a 4-point Likert Scale. The questionnaire went through three expert validations, 2 from the CCC and 1 from the UDM. Also, a pilot testing was conducted on 15 non-actual respondents with a computed Cronbach alpha value of 0.964 which is already highly acceptable.

### **2.4. Data Gathering Procedure and Ethical Considerations**

The gamified module was distributed to the students in CCC via hard copies while digitized copies in UDM. The unfinished remaining terms took six (6) weeks to be completed were the module learning activities such as motivational activities, application, assessment, and enrichment activities have to be completed. In the study, each learning activity has a corresponding badge once they completed the task regardless of the score or corrected item was made, this aspect was found to be the waterloo of the study since the badge was given to those who completed the task regardless of its quality. But this weakness was addressed since the scores performed by the students were the

ones to be recorded as a basis of their semestral grade. Now, the badges earned had corresponding coin value where they can use it to purchase items in the two created stores by the researchers. These are the Pirate Pizzeria and Wizard Watch. The researchers thought that the pandemic causes the students' parents to prevent from working in which majority of them are daily wage earner means no work no pay, Hence instead of real money to buy simple goods like packed noodles, egg, canned goods, uncooked rice, the researchers included these stuff in the Pirate Pizzeria Store where the earned badges can be converted as coins. On the other hand, the researchers had separate consultations where they found out that some of the students were having a part-time job in some essential stores, they were having difficulty completing the challenging tasks in the module, hence they now used the badges earned in exchange to a deadline extension, activity booster, and incomplete immunity. In deadline extension, each item has 3 days extension, now if the student bought 2 items he/she has 6 days extension. But the student has a maximum of 2 items to be purchased since submission of grades on the part of the teacher was considered as well. Also, in the activity booster item, there are cases that students leave the activity incomplete due to the challenging nature of the problems presented hence they can purchase a maximum of 3 items where they can boost their activity scores to have a perfect score. Last the most expensive item in the Wizard Watch Store is the Incomplete Immunity where students with several incomplete learning activities were subjected to an incomplection, in which aside from the "inc" will be reflected their transcript of records, some students cannot apply anymore for any scholarships offered by the City, and if they failed to complete it within a semester in the succeeding academic year, his/her score will be failed and will be reflected as "5.0". This item will help the students to prevent these circumstances since their grade will be automatically converted to a passing rate of "3.0" even if they only completed some lesson of the module and not the entire module.

Now, after 6 weeks, the google form link of the assessment on the use of the gamified module was forwarded to each Class Section Facebook Group chats where the students were given one week time to answer the survey. The stores and badge equivalent can be seen in Appendix A.

With regards to the research ethics protocol, since the college has no guidelines yet on how the modules are to be designed and crafted, the instructors have their free way to do them in which gave them the freeway to integrate the gamified features in the lessons. But they seek for research approval in the conduct of the study before the modules were implemented. Also, the students were then aware that the modules they took were under study and the scores to be recorded will be reflected on their grades while the survey questionnaire was a separate aspect in which only be used for the sole purpose of the research.

## 2.5. Data Analysis

The data gathered were tabulated, analyzed, and interpreted chronologically based on the objectives of the study. The statistical treatment used were frequency count and percent formula, weighted mean, and one-way analysis of variance (ANOVA) using Statistical Package for Social Sciences (SPSS) software at a 5% level of significance.

## 3. RESULTS AND DISCUSSION

The following results and discussion give way to the presentation of profiles, gamification module assessment, and its statistical difference (if exists) so that the enhanced module to be made will be anchored to the findings presented in this portion.

### 3.1. The profile of the Respondents

The six (6) succeeding figures were the distribution of the respondents' profile in terms of the type of institution, age, sex, year level, courses they were enrolled and the degree program.

#### 3.1.1. The Profile of the Respondents in terms of the Type of Institution

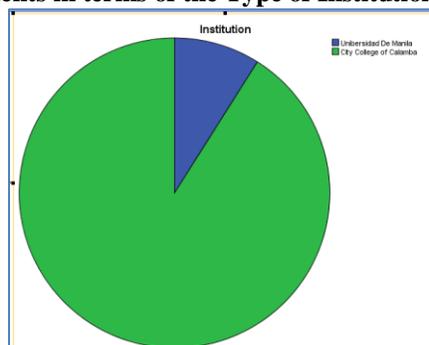


Figure 1

**The Distribution of the Respondents' Profile in terms of the Type of Institution**

Figure 1 shows that 91% of the respondents came from the City College of Calamba, a local college in which the operation was budgeted by the local government of Calamba. While the remaining 9% came from the Unibersidad De Manila, also a local university that is also supported by their local government. Now, gamified features in a local college and university are drafted for a more innovative and interactive way of learning the courses, especially amid the pandemic.

**3.1.2. The Profile of the Respondents in terms of the Age**

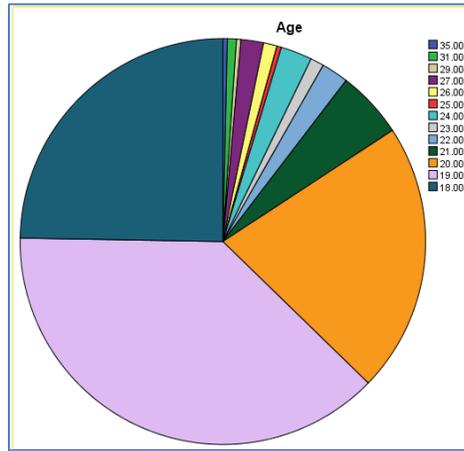


Figure 2  
**The Distribution of the Respondents' Profile in terms of Age**

A combined percent of 84.2 came from the three highest ages reflected in the survey, these were the 24.7% age 18, 38% age 19, and 21.5% age 20. While the remaining 15.8% came from the distribution of ages 22-35. The age range of the college students is consistent with the study conducted by Lanuza et al. (2020) since the first-year students are taking mostly general education (GE) courses which were handled by the authors from a service department, i.e. the Arts and Sciences Department. It can be noted as well that though there are still ages above 22 (the expected year graduation of a regular student), the learners still managed to continue their education despite the age gap of the majority of their classmates. The age variable plays a significant role in the contextualization of the gamified module if found statistically different because of the wide age gaps enrolled in the local college and university sampled in this study.

**3.1.3. The Profile of the Respondents in terms of the Sex**

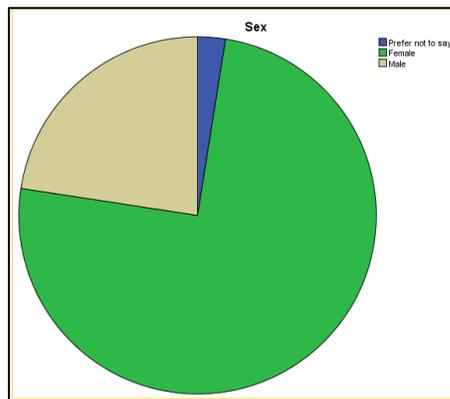


Figure 3  
**The Distribution of the Respondents' Profile in terms of Sex**

Almost three-fourths of the respondents were female, while the remaining 22.6% were male, and the rest of the 2.5% belonged to the third classification of gender which they were not comfortable being called male nor female. One reason perhaps is that in the United States, women now make up the majority of college students and bachelor's degree holders, compared to 39% in 1960. The authors use three longitudinal data sets of high school graduates from 1957, 1972, and 1992 to investigate the narrowing and reversal of the gender gap in education. From 1972 to 1992, high school girls narrowed the gap between boys and girls in math and science course participation and achievement test scores. These variables are referred to as proximate determinants because they can account for 30 to 60% of the rise in women's college completion rate. (Goldin et al., 2006)

### 3.1.4. The Profile of the Respondents in terms of the Year Level

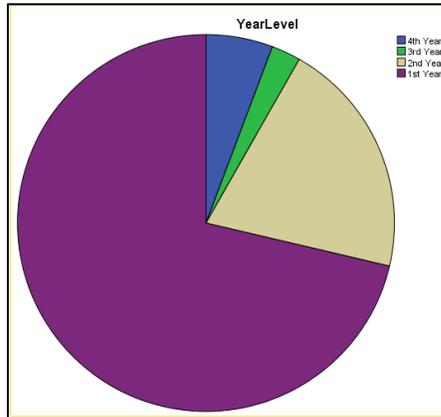


Figure 4  
**The Distribution of the Respondents' Profile in terms of Year Level**

Figure 4 displays that the majority of the respondents were the first-year college since 71.3% of the 279 respondents belong to the first year, 20.4% of them were second-year, 2.5% were third-year while the remaining 5.7% were fourth-year. The majority profile of the respondents played something to do with mainly the characteristics of the first-year students especially when the gamified features of the module were a concern.

### 3.1.5. The Profile of the Respondents in terms of the Degree Program

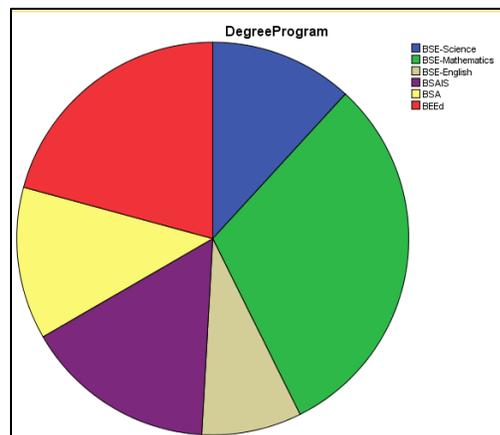
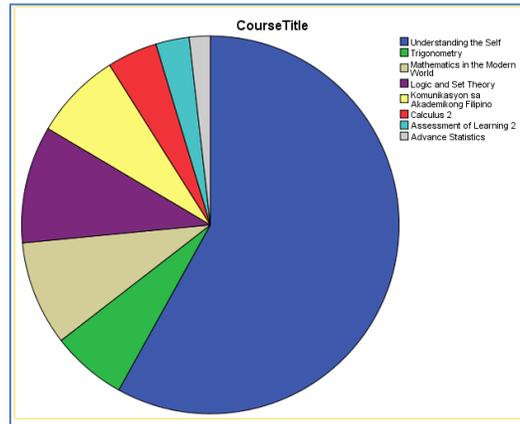


Figure 5  
**The Distribution of the Respondents' Profile in terms of Degree Program**

Figure 5 is the distribution of the respondents' profile in terms of the degree program the students are taking in college. For of which came from the Department of Teacher Education Program such as the Bachelor of Secondary Education (BSE) major in Mathematics, Science, English and the Bachelor of Elementary Education at 30.8%, 11.8%, 8.2%, and 20.8% respectively. While the other two degree programs that participated came from the Department of

Business Education namely the BS Accountancy and BS Accounting Information System at 12.5% and 15.8% respectively. Hence the gamified features to be developed will serve mainly the DTE programs since they will be feature teachers where gamified modules they have used now can be a tool for them in developing a gamified module as well in the future.

**3.1.6. The Profile of the Respondents in terms of the Course enrolled**



**Figure 6**  
**The Distribution of the Respondents' Profile in terms of Course Enrolled**

The eight courses are written in a gamified module came from four different Clusters, more than half of the Understanding the Self course at 58.1% are from the Social Science Cluster. The 7.5% of the respondents are taking “Komunikasyon sa Akademikong Filipino” from the Language and Literature Cluster, 2.9% were taking Assessment of Learning 2 from the DTE Professional Education Cluster, and the remaining 31.6% other four courses were from the Mathematics Cluster separating the 31.6%, the 1.8% took Advance Statistics, 4.3% took Calculus 2, 10% took Logic and Set Theory, 9% took Mathematics in the Modern World, and 6.5% took Trigonometry. The enhanced gamified features to be developed will not only fit to Social Science courses but also to other disciplines including courses from the Language and Literature, Professional Education courses and the abstract courses seen by many, the Mathematics grouped courses.

**3.2. The Perceived Use of the Module Aspects assessed by the Respondents**

The three succeeding tables are the separate presentation of student’s assessment in the module in terms of the three major aspects namely: the Format, Content, and the Gamified Features. While the last table for this section presented the composite table of the Module in general.

**3.2.1. The Perceived Use of the Module Aspects assessed by the Respondents in terms of the Format**

Format of the module may be the last thing to consider in a write-up but not to be neglected since the organization and its technical writing aspect lies directly ahead of it. Table 1 was presented to look for its possible improvement.

**Table 1**  
**The Frequency Distribution on the perceived use of the Module Aspects assessed by the Respondents in terms of the Format**

Module Format Indicators	f (SA)	%	f (A)	%	f (D)	%	f (SD)	%	Mean	VI
The layout of the instructional module is arranged in a logical and sequential order.	144	51.3	133	47.7	3	1.1	0	0.0	3.50	SA

The preliminary pages give a well-defined instruction	143	51.3	133	47.7	3	1.1	0	0.0	3.50	SA
The font size and font style of the instructional module are readable.	159	57.0	120	43.0	0	0.0	0	0.0	3.57	SA
The symbols used in the instructional module are well-defined.	133	47.7	145	52.0	1	0.4	0	0.0	3.47	SA
The tables/diagrams are well presented and easy to understand.	133	47.7	142	50.9	4	1.4	0	0.0	3.46	SA
Key points and key concepts are well highlighted to focus attention while reading.	122	43.7	150	53.8	7	2.5	0	0.0	3.41	SA
Titles and subtitles in the instructional module are clearly defined.	148	53.0	129	46.2	1	0.4	1	0.4	3.52	SA
Illustrations, pictures, and captions are properly laid out for easy reference.	119	42.7	151	54.1	8	2.9	1	0.4	3.36	SA
The module cover, color and template are interesting enough to learn the course.	99	35.5	166	59.5	14	5.0	0	0.0	3.30	SA
The instructional module is generally formatted in a convenient manner considering the paper size used.	127	45.5	149	53.4	3	1.1	0	0.0	3.44	SA
Grand Mean									3.45	SA

Table 1 presents the assessment of the respondents in the module in terms of its format. A computed grand mean of 3.45 which is interpreted as strongly agree means that the students who used the module find the module highly formatted. One of the strongest points of the module with the highest mean is the indicator saying that the font size and the font style of the instructional module are readable. Burge (2019) highlighted one of the three key things to consider in designing an effective teaching module, is the clarity of the module purposes and aspirations for the students and to communicate these to the students, these key terms cannot be achieved if in the first place the texts themselves are not readable. However, among the 10 indicators although, all assessed highly positive, there are still students who answered strongly disagree in some areas and has to be included to be developed in the Enhanced Gamified Module, these are laid out properly the Illustrations, pictures, and captions for easy reference, and the color and template module cover for a more interesting in learning the course.

### 3.2.2. The Perceived Use of the Module Aspects assessed by the Respondents in terms of the Content

Content of the module is the central key of effective modular instruction, without a clear presentation of the topics in a sequential and organized manner, the ideas written by the authors of the module may not be delivered properly if the content itself has ambiguity, hence table 2 presented the user's evaluation for a more comprehensive of improving it.

Table 2  
The Frequency Distribution on the perceived use of the Module Aspects assessed by the Respondents in terms of the Content

Module Content Indicators	f (SA)	%	f (A)	%	f (D)	%	f (SD)	%	Mean	VI
The introductory part of each lesson gives the gist of what the lesson is all about.	144	51.6	133	47.7	2	0.7	0	0.0	3.51	SA
The objectives in each lesson are stated in a specific, measurable, and attainable manner.	140	50.2	137	49.1	2	0.7	0	0.0	3.49	SA
The getting started (Motivational Activity) gives the preliminary idea to what the lesson is all about	132	47.3	142	50.9	4	1.4	1	0.4	3.45	SA

The Discussion part of the Module is complete and comprehensive, (i.e., with facts, theories, examples, relation to real-life)	120	43.0	157	56.3	2	0.7	0	0.0	3.42	SA
The Discussion part of the module gives enough illustrative examples to explain the lesson well.	105	37.6	167	59.9	7	2.5	0	0.0	3.35	SA
The Practice part of the Module allows me to apply what has been learning in the discussions presented in the module.	127	45.5	149	53.4	3	1.1	0	0.0	3.44	SA
The Reflection part of the module allows me to generalize the theories and principles learned in the discussions through reflections and application in real life.	105	37.6	167	59.9	7	2.5	0	0.0	3.47	SA
The Assessment part of the module was constructed based on my level of understanding of the theories, principles, and applications learned in the discussion part.	123	44.1	152	54.5	4	1.4	0	0.0	3.43	SA
The content of the module is up-to-date and with reliable references.	126	45.2	151	54.1	2	0.7	0	0.0	3.44	SA
The content of the module caters the Learning Outcomes of the course.	120	43.0	156	55.9	3	1.1	0	0.0	3.42	SA
Grand Mean									3.43	SA

Table 2 has a grand mean of 3.43 which was interpreted as strongly agree. It means that the content aspect of the module was highly acceptable in the comprehension level of the students. All 10 presented indicators about the content were converted as strongly agree to emphasize the strongest points such as “The introductory part of each lesson gives the gist of what the lesson is all about. It is an excellent feature of the content aspect since it gave the student the list of what they will have to learn in which hook them to continue the entire lesson. Highlighting the weak point, it involves “The Discussion part of the module gives enough illustrative examples to explain the lesson well”. Meaning, the discussion part more importantly the sufficient examples must be emphasized. The colleges' strategies in implementing a pure modular approach made the students more independent in learning, hence they need an informative and more comprehensive set of examples together with a sufficient number to give the students understand each lesson presented in the module in a self-paced manner.

**3.2.3. The Perceived Use of the Module Aspects assessed by the Respondents in terms of the Gamified Feature**

The last key aspect which is the focal aspect of this paper discussed the integration of a gamification technique not in the four corners of the classroom embedded in the module. These areas of considerations from the users helped the researcher to form a design guide across disciplines in integrating the gamified features which were presented in Table 3.

Table 3  
**The Frequency Distribution on the perceived use of the Module Aspects assessed by the Respondents in terms of the Gamified Features**

Module Gamified Features Indicators	f (SA)	%	f (A)	%	f (D)	%	f (SD)	%	Mean	VI
The progress tracker of the module allows me to keep track of my learning progress through monitoring the colored stars I have completed.	109	39.1	161	57.7	9	3.2	0	0.0	3.36	SA

The progress tracker allows me to finish as soon as possible the module by seeing its complete colored stars.	101	36.2	164	58.8	14	5.0	0	0.0	3.31	SA
The badges given to each part of the module keep me motivated while earning them.	128	45.9	142	50.9	9	3.2	0	0.0	3.43	SA
The badge design and lay-out allow me to be interested to what to be completed next.	120	43.0	150	53.8	9	3.2	0	0.0	3.40	SA
The activities presented in a gamified manner help me learn the lessons joyfully.	106	38.0	168	60.2	5	1.8	0	0.0	3.36	SA
The activities presented in a gamified manner help me understand the lessons better.	106	38.0	166	59.5	7	2.5	0	0.0	3.36	SA
I find the gamified activities fun and innovative way of learning things in the module.	113	40.5	155	55.6	10	3.6	1	0.4	3.36	SA
The gamified module helps me keep my motivation consistent until completing the module.	107	38.4	162	58.1	9	3.2	1	0.4	3.34	SA
I find the gamified module helpful in improving my performance in the course.	106	38.0	164	58.8	8	2.9	1	0.4	3.34	SA
I find the gamified module helpful in passing the course through its comprehensive but joyful assessments.	116	41.6	159	57.0	4	1.4	0	0.0	3.40	SA
Grand Mean									3.37	SA

Table 3 presents the 10 indicators applied in the module in terms of its gamified aspects. The grand mean is 3.37 which falls under the verbal interpretation of strongly agree. It can be underscored that despite its first time implementing such aspect in the module, the user received them highly positive. To name the strong point with the highest weighted mean of 3.43 is the feature involving the badges given to each part of the module that keeps the student motivated while earning them. It was consistent with the means of the badge design and layout which allowed the users to be interested in what to be completed next and to find it helpful in passing the course through its comprehensive but joyful assessments at an equal means of 3.40. While the indicators may not be considered weak points since the general assessment was still highly positive there were still strongly disagreed answers though rare should not be neglected, the objective of seeing the students persevere of seeing their completed colored stars in the tracker was not fully met as reflected in the lowest mean at 3.31. Also, some strongly disagreed that the gamified module, in general, does not keep his/her consistent motivation of completing the module since they find them not helpful in improving their performance in the course. These three points will be subjected for improvement and will play a major role in the drafts of the design guide of integrating gamified modules in other disciplines.

### 3.2.4. The Perceived Use of the Module Aspects assessed by the Respondents in terms of the Three Aspects

Table 4

#### The Composite Mean Distribution of Respondents Assessment in the Aspects of the Module

Aspects of the Module	Mean	Verbal Interpretation
Content	3.45	Strongly Agree
Format	3.43	Strongly Agree
Gamified Features	3.37	Strongly Agree
Grand Mean	3.42	Strongly Agree

Generally, the three aspects of the module in terms of content, format, and more importantly the gamified features were all started in high regard with a grand computed mean of 3.42 and will be recommended for its continuous use in the New Normal classroom. However, improvement may be made to the gamification aspect and maybe upgraded via software application in the future use.

**3.3. The Mean Distribution on the Comparison of the Aspects of the Module when grouped according to Profile**

The significant differences were tested to determine if which profile can be a factor in the use of gamification technique integrated into the module since Outcomes-Based Education in Mathematics (Lanuza, 2017) can be achieved by determining first the suitability of learner’s profile to how they were learning things in Mathematics through its teaching methods, learning activities and assessment tools.

**3.3.1. The Mean Distribution on the Comparison of Format Aspect of the Module when grouped according to Profile.**

Table 5  
**The P-value Distribution on the Comparison of the Assessed Format Aspect of the Module when grouped according to Profile**

Profile Format Mean	Type of Institution	Age	Sex	Year Level	Degree Program	Course Enrolled
3.45	0.979	0.272	0.360	0.335	0.104	0.033**

\*\*significant at 5%

As shown in table 1, the mean score of the module assessment in terms of the format aspect was reflected as 3.45 as a whole, but upon grouping the responses according to profile, p-values were generated. From Table 5, among the six profile variables, only the means grouped according to the courses enrolled was found significant at 0.033 which is lesser than the alpha value of 5%. It was evident from the different levels of assessment in all courses of Advanced Statistics, “Komunikasyon sa Akademikong Filipino”, Logic and Set Theory, Trigonometry and Understanding the Self which was all in Moderately agree unlike in the students enrolled in Assessment of Learning 2, Calculus II, and Mathematics in the Modern World which this time marked as highly agree. It means that the format of the module was highly crafted for some three courses but the majority assessed it for improvement. One primary reason-based from (Quick, 2021) especially in Statistics, there must be a standard way of creating tables and charts which can be understood easily in layman’s terms without actually having a mathematical maturity to interpret them which perhaps lacking in the format of the module.

**3.3.2. The Mean Distribution on the Comparison of Content Aspect of the Module when grouped according to Profile.**

Table 6  
**The Mean Distribution on the Comparison of the Assessed Content Aspect of the Module when grouped according to Profile**

Profile Content Mean	Type of Institution	Age	Sex	Year Level	Degree Program	Course Enrolled
3.43	0.907	0.567	0.059*	0.770	0.422	0.229

\*\*significant at 5%

\*significant at 10%

Table 6 showed the p-values of the means from the Content assessment of the respondents. Among the six profile variables this time, only sex was found statistically significant at 0.059 compared to an alpha value Of 0.10. Means from the three groups of sex were 3.34 for males, 3.48 for females while 3.36 for the respondents who preferred not to mention their sex because of gender sensitivity. From the three, although all in a moderate level of agreement about the content, girls still found it higher than the rest. One reason is that girls are attending school and excelling in

their core subjects; they may be learning—through stories in their textbooks or from their teachers' remarks, (Sperling et al., 2016) hence they can use these lenses to evaluate deeply the content aspect of the module.

**3.3.3. The Mean Distribution on the Comparison of Gamified Feature Aspect of the Module when grouped according to Profile.**

Table 7  
**The Mean Distribution on the Comparison of the Assessed Gamified Feature Aspect of the Module when grouped according to Profile**

Profile Gamified Feature Mean	Type of Institution	Age	Sex	Year Level	Degree Program	Course Enrolled
3.37	0.830	0.243	0.086*	0.920	0.199	0.556

\*\*significant at 5%

\*significant at 10%

Table elucidated the highlight aspect of this study, i.e. the significant difference of gamified features as assessed by the respondents when grouped according to six profile variables. It can be underscored that gamified features were equally implemented and equally received moderately positive by the type of institutions in a local college or a local university since the p-value is 0.830. Moreso, the gamified features deviate the assumption that the younger the user, the more he/she will get into some gamified features which in this study proven false since it works equally from all age brackets and all year level from the gamified module user of the study that can be seen in its p-values of 0.243 and 0.920. Also, it is interesting to note that gamified features are not only possible to apply in social sciences courses, but also in Mathematics courses and applied disciplines evident to the p-values from degree programs and courses enrolled at 0.199 and 0.556 respectively. However, the only significant factor that can be considered for a more contextualization and more relevance of the gamified features lie in the sex profile with a p-value of 0.086 which is significant at 10%. From the Stanford Study written by Brant (2021), she included that in 2005, more than 230 million video and computer games were sold, and polls show that 40% of Americans use a computer or console to play games. According to a Harris Interactive survey from 2007, young males are two to three times more likely than females to be addicted to video games like the popular Halo series. Moreover, Zorilla (2021) mentioned the combined studies of Lucas & Sherry, Yee, and Jansz et al. that from these various studies, gaming motivations have been divided into three categories: accomplishment (gaining control, competitiveness, and character optimization through game mechanics), social aspects (socializing, relationships, and teamwork), and immersion (discovery, role-playing, character customization, escapism) which perchance looked by the men. She added from the study conducted by Olson et al. investigated boys' video game use, discovering that boys use violent video games to convey delusions of dominance and glory, to explore and master what they considered to be thrilling and practical worlds, and to work out their frustration and stress. These reasons perhaps lead the men to have high expectations about the integration of games in education especially integrated with the new normal modular delivery of instruction.

**4. CONCLUSION**

In the light of the findings, it was concluded that in the abrupt change in education caused by the pandemic, the modular approach was widely used by most of the local colleges and universities based from their baseline data for connectivity issues. Hence, instructors find ways of innovating the module aspects in terms of the format, content and adding some spice to sustain learner's motivation through the gamification features. Although the gamification technique was originally used as a teaching strategy in teaching in the same locale before the pandemic started, the author twisted the idea and embedded some gamified features in the module anchoring in the new normal context. It can be concluded that the infancy stage of implementing gamified features in the module was already in high regard. Despite the limitation on the reproduction, IT resources, materials to be used in the original badges, the students still accepted the positive result that the gamified module can give in terms of their academic performance even amid the Corona Virus Disease 19 (COVID19) pandemic. However, although found to be in high regard, the result showed some weaknesses such as the layout for Illustrations, pictures, and captions, the appropriate color, and template module cover to be used for a more appealing result. Also, the discussion section has inadequate examples, due to the colleges'

strategies in adopting a pure modular approach, which has made students more independent in learning and necessitates a more guided discussion component. Last, the goal of seeing students persevere in seeing their completed colored stars in the tracker does not maintain their constant incentive to complete the module because they do not find it helpful in enhancing their course results were subtly mentioned in the gamified features. On the other note, factors to be considered in the contextualization process were seen significant in the courses enrolled when it comes to formatting and seen significant in sex when it comes to both the content and gamified features of the module.

## 5. RECOMMENDATIONS

The present study on gamified module including the format and content suggest that in the context of the New Normal Classroom where face to face is still at far in the Philippine Education especially in the concentrated land areas, incentivized badges might be an essential antecedent for engaging gamification and sustaining learner's motivation to learn even in the remote set-up. Experimental conditions may be used to assess the effect of a gamified module. Implementing such gamified features and keeping them unchanged while changing the essence of the underlying service could provide insight into how context influences gamification outcomes. A Experimental conditions may be used to assess the effect of a gamified module. Implementing such gamified features and keeping them unchanged while changing the essence of the underlying service could provide insight into how context influences gamification outcomes. Also, strengthening the weak points mentioned by improving them in the next modules to be drafted not only in the courses it had used but also exploring the idea of bidisciplinary areas and in other disciplines such as Sciences, and Abstract Higher Mathematics courses. Furthermore, an IT and Computer Science collaboration from the experts necessitates the idea of transforming it in a digital form for easy access and reliable monitoring including add cart from the typical online store are imagined to realize by their help.

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