Development of a game-based learning management model to promote the development of SMEs-based business management process concepts for small business groups

1 Asst.Prof.Dr. Phumphakhawat Phumphongkhochasorn, 2Dr.Sunantha Sathienmas, Dr.Pakamon Pokateerakul 3, Dr.Amnuay Boonratmaitree 4
1,2,3,4 College of Innovation Management (RCIM), Rajamangala University of Technology Rattanakosin, Thailand
Phumphakhawat.phu@rmutr.ac.th 1, lekunion@hotmail.co.th 2, Pakamon999@hotmail.com 3, am091107@hotmail.com 4

Abstract— The research on developing a game-based learning management model (Game based learning) to promote the development of conceptual management processes based on the SMEs model for small business groups is aimed at studying the development of learning models. It teaches innovative teaching and learning methods through game-based learning as well as to study academic achievement and opinions of doctoral students in management in education, concept development, processes, Management according to the business model SMEs for small business groups of students who study with game-based learning and teaching, using quantitative research methods using tools to collect data through Population questionnaires were doctoral students in the field of management. College of Innovation Management (RCIM), Rajamangala University of Technology Rattanakosin that studies the concept of developing business management process concepts according to the SMEs model for small business groups Creatively, 15 students in the first semester of the academic year 2020.

The results of the research showed that the development of the teaching and learning model for innovation in teaching and learning methods using game-based learning in the whole was at the highest level when considered on a sequential basis. In descending order of mean, it was found that the students developed the concept of management process according to the model business. SMEs for the Small Business Group in Practice Management (Do) were the highest for their opinions on student achievement as a whole, at the highest level when considered individually, ranked from average to highest Little found that the students had the most opinion on intellectual skills and the opinions of the students who studied with Game-based learning in the overall level. The highest, when considered in descending order, average descending, found that students had the most opinion on creativity.

Index Terms— game-based learning, business management processes, small business

I. INTRODUCTION

New concepts have begun to influence the management of education, especially with the current educational reforms, with the view that each learner is different and has its own uniqueness. And learning management must be adapted to take into account such characteristics. Rapid changes create anxiety and insecurity among teachers, which can be a challenge to learn new strategies. As an education leader, teachers must agree to learn and solve problems that may arise from new
theories that consciously enter. Teachers must be examples of those who have lifelong learning. To learn how to think outside the box and develop more, the teacher's job is not just to refine the status quo. If it will cause lasting change in the school system, we should seek truth from many dimensions. As human beings, we have many complex aspects of life that cannot be limited to one form. Humans like the truth but live on the guise of learning from a variety of sources. Changing knowledge about such changes will lead to the improvement of their human skills, and teachers must learn to work with more diverse communities and see parents as a source of learning. and support rather than intervention, which is considered to increase the efficiency of teaching and learning, and beneficial to the learning of students by the development of teaching innovation projects that can be considered a new teaching method or development. Adapted from the original teaching management method, resulting in more effective teaching and learning management.

Learners have learning outcomes according to the course objectives. There are 3 types of teaching innovations which are innovations in all forms of teaching methods, innovations in teaching media. And finally, innovations in measurement and evaluation by this innovation of teaching and learning. Instructors will use innovative methods of teaching and learning with Game based learning or GBL, which is an innovative new teaching media that is designed and inserted into the lesson content. In the game, students participate in hands-on learning and practice in learning by themselves. While playing, learners will gain skills and knowledge from the lesson content while playing. Efforts to think of new teaching methods, new teaching materials to cover the gaps in learning limitations, learner perception, learner motivation, learner curiosity. The problem that is often found in most students is that learning is boring and not fun, having to read a lot of books and do not want to study. There are other activities that are more interesting [3], where these problems are a challenge for teachers who need to focus more on teaching and have to adjust teaching styles and techniques to suit their learners. By taking action as well as inviting students to collaborate with teachers, teachers will leverage this opportunity to observe their work and share experiences they have discovered together. This kind of learning will help teachers to make the leap from theory to practice successfully because modern teaching not only teaches students but also cares and builds relationships. With them, with the process of learning through problem solving an important step, teachers encourage learners to ask questions and examine their questions. This approach will make the course more meaningful. The lesson doesn't have to end with the right answer, but it should be an answer that can extend to the student's further questioning because modern thinking views students' ideas as valuable. Students will use them to develop their own meanings instead of transferring knowledge from teachers. It emphasizes critical thinking rather than factual information [2].

For that reason, the researcher believes that learning activities should be meaningful and interesting to students, they should be allowed to create, develop and apply additional knowledge or skills, they should have options and be able to. Given the opportunity to be planners and decision-makers, activities should be created that allow children to utilize their knowledge in new situations. Children should be encouraged to find answers to their own questions by using analytics to foster entrepreneurship and ideas in the management of exhibitions and events. For students of exhibition and event management to be a model for other courses and to promote the development of business management process concepts according to the SMEs model. For business groups, the size corresponds to the learning objectives for students in the 21st century, consistent with the learning outcomes according to the National Higher Education Qualifications Framework. (TQF) of the development of students' learning outcomes in 5 areas: 1. Morality and ethics 2. Knowledge
of SMEs business model 3. Skills in SMEs business model 4. Skills in relationship between Person and responsibility 5. In terms of numerical analysis skills, communication, and using information technology, Game Based Learning is a learning medium that will help learners learn both at the level of memory and understanding. It is also interesting to motivate students to want to learn. To create a sense of fun for learners and to engage learners in the learning process until self-learning occurs, the designed game should be tested several times to ensure that the game retains its content. All important, and create fun and engaging for learners.

II. RESEARCH OBJECTIVES

The objectives of this research article were

1. To study the development of a game-based learning management model to promote the development of the concept of business management process according to the SMEs model for small businesses

2. To study the opinions of doctoral students Department of Management in the study of conceptual development of management processes according to SMEs business model for small business groups Learning by teaching and learning by using game as a base (Game based learning)

3. To study the academic achievement of doctoral students Department of Management in the study of conceptual development of management processes according to SMEs business model for small business groups Learning by teaching and learning by using game as a base (Game based learning)

III. RESEARCH METHOD

Step 1: Study on the content of the theoretical concept documents. From the literature review and related research, the researcher has a conceptual framework consisting of Learning Theory/Approach, Game based learning concepts and theories, 21st century skills concepts and theories, Concepts and theories on 4 Cs, Theoretical concepts of PDCA and the development of students' learning and Articles and related research are in accordance with the objectives.

Step 2 Population and Sample

The population includes doctoral students. Management College of Management Innovation Rajamangala University of Technology Rattanakosin who study the concept of developing the concept of business management process according to the SMEs model for small business groups creatively, 10 students in the first semester of the academic year 2563

Step 3 Tools and methods used in the study

This research aims to study the innovative teaching-learning methods of teaching-learning methods using game-based learning, as well as to study the learning achievements and opinions of degree students. major Management College of Management Innovation Rajamangala University of Technology Rattanakosin who study the concept of developing the concept of business management process according to the SMEs model for small business groups Creatively, 10 students in the first semester of Academic Year 2020 studied with game-based learning management using quantitative research methods. (Quantitative Research) by using tools to collect data through questionnaires.

Step 4 Collecting Information

Data collection for use in this research consisted of primary and secondary data. By collecting information that meets the objectives of this study.

1) Primary Data Collection The study's primary data was collected by using a questionnaire.

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2) Secondary data collection (Secondary Data) The students studied the concepts and theories related to the game-based learning management model to promote entrepreneurship and concepts in the field of game-based learning. Management of exhibitions and events for PhD students Management College of Management Innovation Rajamangala University of Technology Rattanakosin

Step 5 Data Analysis
1) Quantitative data

2) Pearson Product Moment Correlation was used to find the relationship of personal characteristics, i.e. age, gender, analysis using basic statistical values such as mean, standard deviation, and percentage and average GPA, that was related to the opinions of students towards the assessment of the learning management model by using games. Is it a game-based learning base?

IV. RESEARCH RESULTS

Objective 1 was to study the development of a game-based learning management model to promote the development of the concept of business management process according to the SMEs model for small business groups. Learn to teach an innovative method of teaching and learning with game-based learning, which consists of 5 steps as follows:

Step 1: Determine the learning objectives. Clear content boundaries will allow you to choose the game that is more suitable for the teaching style. Before using the game should consider the following.

1) Intervention If the learners do not understand the content of the lesson of the development of game-based learning management model (Game based learning), the teacher may try to use the game to fix the deficiencies. The selected game should be appropriate for the learner in terms of content and learning style of the learner.

2) Game enrichment should be diverse and create challenges for learners to learn new methods of developing a game-based learning management model.

3) Reinforcement The game has a variety of features in addition to motivating students. It is also considered to reinforce the content in the lessons of developing a game-based learning management model as well as creating interactions with learners. the aforementioned will result in the teaching process in accordance with the needs of teachers and students.

Step 2 Experiment with the game once the game is appropriate for the learners. Instructors need to bring the game to a trial to learn the following information:

1) The development of a game-based learning management model of the teacher's role is appropriate. He is the one who encourages students to experiment, practice and praise them when they do the right thing to boost their morale.

2) Developing a game-based learning management model of usability should be easy to use, challenging.

3) Developing a game-based learning management model of engaging content and presentation methods will determine student engagement.

4) Game-based learning management model development of content types to support various learning styles. Games should have different types of content

5) Development of a game-based learning management model that is a content level to identify problem areas and various aptitudes. Games should use different teaching principles to adapt the content to each player. Developing a game-based learning model following the steps mentioned

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above will help them decide if the game is appropriate and consistent with the learning goals set.

Step 3: Study the students' opinions towards the development of a game-based learning management model. When the game is used in the experiment, the satisfaction of the learners must be checked from the questionnaire. Satisfaction to see suitability in various aspects of the game according to user feedback.

Step 4: Improve and develop a game-based learning management model from game-based experimentation. Instructors must bring such defects to be corrected in accordance with learning goals and learners.

Step 5: Assess the development of a game-based learning management model by collecting data from the experimental games. to be compared with the assessment criteria set.

Objective 2 is to study the opinions of doctoral students. Department of Management in the study of conceptual development of management processes according to SMEs business model for small business groups who studied with game-based learning and teaching management. From the analysis of general data of doctoral students Management College of Management Innovation Rajamangala University of Technology Rattanakosin who study the concept of developing the concept of business management process according to the SMEs model for small business groups Creatively, 10 students in the first semester of Academic Year 2020 had opinions on the game-based learning management model to promote the concept of SMEs business management process for small businesses. In the first semester of the academic year 2020, in the first part, it was found that most of the students were 6 males and 4 females. small Creatively, 10 students in the first semester of the 2020 academic year had mean and standard deviation of student opinions towards learning management model in the study of conceptual development of management process according to SMEs business model for small business groups. Game based learning was used in the overall picture as shown in Table 1.

Table 1 Mean and standard deviation of student opinions towards learning management model in the study of conceptual development of management process according to SMEs business model for small business groups using game as a base (Game based learning) in the overall picture
From Table 1, it was found that the opinions of students towards the learning management model in the study of the conceptual development of the SMEs business management process for small business groups Game based learning in overall was at the highest level ($\mu = 4.45$).

The results of the data analysis of students’ opinions towards the learning management model in the study of the conceptual development of the management process according to the SMEs business model for small business groups Game based learning was based on the mean and standard deviation of the opinions of the students who studied with Game based learning in the overall picture as shown. can be found in table 2.

Table 2 Mean and standard deviation of student opinions towards learning management model in the study of conceptual development of management process according to SMEs business model for small business groups using game as a base (Game based learning) in the overall picture

<table>
<thead>
<tr>
<th>Teaching and learning by using games as a base (Game based learning)</th>
<th>comment level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\mu$</td>
</tr>
<tr>
<td>1. Creativity</td>
<td>4.57</td>
</tr>
<tr>
<td>2. The ability to work with others (Collaboration)</td>
<td>4.53</td>
</tr>
<tr>
<td>3. Effective communication (Communication)</td>
<td>4.51</td>
</tr>
<tr>
<td>4. Critical Thinking and Problem-Solving</td>
<td>4.48</td>
</tr>
</tbody>
</table>

From Table 2, it was found that the mean and standard deviation of student opinions towards learning management style in the study of conceptual development of management process according to SMEs business model for small business groups by using games as a base (Game based learning) in the overall picture at a high level ($\mu =4.45$)

Objective 3 is to study the academic achievement of doctoral students. Department of Management in the study of conceptual development of management processes according to SMEs business model for small business groups who studied with game-based learning and teaching management. The opinions on the student's overall academic achievement were at the highest level ($\mu = 4.45$) as shown in Table 3.

Table 3 Mean and Standard Deviation of Educational Perspectives for Doctoral Students Department of Management in the study of conceptual development of management processes according to SMEs business model for small business groups that studied with game-based learning management in the overall picture
It was also found that the correlation coefficient between opinions on academic achievement of doctoral students Department of Management in the study of conceptual development of management processes according to SMEs business model for small business groups Those who studied with game-based learning management were related to the average grade of the students. It was statistically significant at the 0.05 level and the correlation coefficient between the opinions of the doctoral students. Department of Management in the study of conceptual development of management processes according to SMEs business model for small business groups Those who studied with game-based learning management were significantly correlated with the students' understanding of the learning process according to the SMEs business management process for small business groups. Statistically at the 0.05 level as well.

V. DISCUSS THE RESULTS

The results of the research objectives that 1To study the development of a game-based learning management model to promote the development of the concept of business management process according to the SMEs model for small businesses, it was found that the innovative teaching and learning method The method of teaching and learning with game-based learning consists of 5 steps, consisting of step 1, setting learning objectives, clearly defining content boundaries. It will help to choose a game that is more suitable for the teaching style. Before using the game should consider the following: 1) Intervention if the learners do not understand the content in the lesson of developing a game-based learning management model. (Game based learning) Instructors may try to use games to fix deficiencies. The selected games should be suitable for the learners both in terms of content and learning style of the learners. 2) Enrichment The games should be diverse and challenging, with learners in learning new methods of developing a game-based learning management model 3) Reinforcement. The game has a variety of features. In addition to motivating students, it is also considered to reinforce the content in the lesson of developing a game-based learning management model, as well as creating interactions. With the learners as well, which if the teacher manages the teaching to meet the aforementioned will result in the teaching process in accordance with the needs of teachers and students. 2. Developing a game-based learning management model of the role of a suitable teacher who encourages students to experiment, practice and praise them when they do it right in order to create morale, and encouragement including the development of a game-based learning management model of usability It should be easy to use, challenging and the development of a game-based learning management model of participation. The content and method of presentation will determine student engagement by developing a game-based learning management model of content type To
accommodate various learning styles, games should have different types of content. This will affect the development of a game-based learning management model at the content level. In order to identify problem points and various aptitudes, games should use different teaching principles to adapt the content to each player. Development of a game-based learning management model according to the steps in The foregoing will help determine whether the game is appropriate and consistent with the learning goals set. Step 3: Study the students' opinions on the development of a game-based learning management model. Base (Game based learning) when putting the game to trial. The satisfaction of the learners must be checked from the satisfaction questionnaire. to see suitability in various aspects of the game. Based on user feedback, Step 4: Improve and develop a game-based learning management model from the experimental game. Instructors will have to correct the flaws. in accordance with learning goals and learners. And the fifth step was to assess the development of a game-based learning management model by collecting data from the games used for the experiment. to be compared with the assessment criteria set. This is consistent with research by [7] which states that using games as a learning base, learners can learn basic knowledge and can practice practical experience, affecting the development of knowledge, understanding, skills and attitudes in training activities. Use a method of exchanging experiences between participants in the development and the participants developed with the speakers focus on practice. Organize a learning environment cause branching of knowledge and experience in changing situations and rules. In addition to the role of the teacher learning transfer. Optimizing game content for learning, activity conditions, game methods and team communication can effectively promote game-based learning. The results of the second objective research were to study the opinions of doctoral students. Department of Management in the study of conceptual development of management processes according to SMEs business model for small business groups the students' opinions on the learning management model in the study of conceptual development of SMEs business management process for small business groups. Game based learning in overall was at the highest level (μ = 4.45). SMEs model for small businesses. Game based learning was based on the mean and standard deviation of the opinions of the students who studied with game-based learning. This is consistent with research [3] that says games help keep learners motivated in learning and performance. Learners can look at the overall management of Knowledge Planning as a survey of the current corporate environment. To know how much knowledge in the organization. Then set the objectives up. for clarity in reaching that goal. There should be an action plan for knowledge development resources. need to know the source of knowledge. Time and cost required as well as knowledge transfer. Must know the knowledge of who or what agency will be responsible in collecting or disseminating knowledge, using any media, how much budget, etc. The results of the research objective 3 to study the academic achievement of doctoral students. Department of Management in the study of conceptual development of management processes according to SMEs business model for small business groups. In the correlation coefficient of opinions on academic achievement of doctoral students. Department of Management in the study of conceptual development of management processes according to SMEs business model for small business groups. Those who studied with game-based learning management were related to the average grade of the students. It was statistically significant at the 0.05 level and the correlation coefficient between the opinions of the doctoral students. Department of Management in the study of conceptual development of management processes according to SMEs business model for small business groups. Those who studied with game-based learning management were significantly correlated with the students' understanding of
the learning process according to the SMEs business management process for small business groups. Statistically at the 0.05 level as well, it will result in learners to have more understanding and improve their learning. Consistent with the study of [6], it was found that there were researches and academic papers, including educational articles, the findings related to the success of learning through games Game Based Learning in the past 5-10 years has been increasing continuously. Most of the research supports the advantages of learning through digital games in terms of learning outcomes, attitudes and learning behaviors of learners.

VI. SUGGESTION

from research results The researcher has the following suggestions:

1. Recommendations from research

1.1 Development of a game-based learning management model to promote the development of the concept of business management process according to the SMEs model for small businesses Teachers should design an assessment of the learning progress of learners using games to be appropriate and consistent with learners in the 21st century.

2. Suggestions for the next research

For the next research issue, research should be done on the issue of

2.1 There should be a study on the development of game-based learning management model of other forms of innovation. Such as Brain-based Learning (BBL), Self-Directed Learning, Teaching using Mind Maps, Mapping) problem-based learning (Problem-based Learning teaching that causes learning from practice (Action Learning) learning from experience. (Experiential Learning management based on participative learning theory (Participatory Learning Cooperative Learning (Collaborative Learning Research-Based Learning Learning), etc., to increase efficiency in teaching and learning management.

REFERENCES