การพัฒนาเกมภาษาสำหรับการเรียนรู้ภาษาแบบสหวิทยาการ
Development of Language Games for Interdisciplinary Language Learning

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บทคัดย่อ

การเรียนรู้ภาษาต่าง ๆ เป็นกลยุทธ์พื้นฐานในการเข้าใจทุกภาษา เครื่องมือการสอนหลายชนิดได้ถูกนำเสนอเพื่อพัฒนากลยุทธ์ต่าง ๆ ของนักเรียน เกมภาษาเป็นหนึ่งในนั้นที่ค่อย ๆ ถูกนำไปใช้ในห้องเรียน เพื่อช่วยพัฒนาขีดความสามารถในการเรียนรู้ของนักเรียน บทความฉบับนี้มีจุดประสงค์เพื่ออธิบายการพัฒนาเกมภาษา เพื่อปรับปรุงกลยุทธ์การเรียนรู้ภาษาของนักเรียน การพัฒนาเกมภาษานำเสนอผ่านกระบวนการพัฒนารูปแบบการสอน ADDIE ซึ่งประกอบด้วย 5 ขั้นตอน การวิเคราะห์ การออกแบบ การพัฒนา การนำไปใช้ และการประเมินผล รวมทั้งทฤษฎีการสอนของโรเบิร์ต กาเย่ ซึ่งประกอบด้วยกระบวนการสอน 9 อย่าง การเร่งเร้าความสนใจ การบอกวัตถุประสงค์ การทบทวนความรู้เดิม การนำเสนอเนื้อหาใหม่ การชี้แนะแนวทางการเรียนรู้ การกระตุ้นการตอบสนองบทเรียน การให้ข้อมูลย้อนกลับ การทดสอบความรู้ใหม่ และการสรุปและนำไปใช้ จากผลการศึกษาในครั้งนี้คือการพัฒนาและนำไปใช้จริงของเกมภาษาซึ่งได้แก่ เกมคล้องจอง และเกมเรียงคำ

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ABSTRACT

Language learning strategies are fundamental for the understanding of any language. A number of instructional instruments have been introduced to enhance students' learning strategies. Language games are one of the instruments gradually applied in classrooms in order to foster students' learning capabilities. This article is aimed at explaining the development of language games to improve students' language learning strategies. The development of language games has been presented through the ADDIE instructional design consisting of five phases, analysis, design, development, implementation, and evaluation. The instructional

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theory of Robert Gagné was also employed consisting of nine events of instruction: gaining attention, informing learners of the objectives, stimulating recall of prior learning, presenting the stimulus, providing learning guidance, eliciting performance, providing feedback, assessing performance, and enhancing retention and transfer. Findings from this study are the development and implementation of language games such as rhyming games and word sort games.

Keywords: instructional design, language games, language learning strategies, language learning theory

Introduction

In the age of globalization, English is an international language. In learning second language, one of the most obstacle in comprehending reading is a lack information of vocabulary Vocabulary is an important component in learning foreign language learning (Laufer and Ravenhorst-Kalovski, 2010). Rivers (1970) mentioned that "it would be impossible to learn a language without vocabulary." One of the important indicators of the high score in reading comprehension is vocabulary (Lesaux and Kieffer, 2010). Alqahtani (2015) stated that "vocabulary learning is an essential part in foreign language learning as the meanings of new words are very often emphasized, whether in books or in classrooms. It is also central to language teaching and is of paramount importance to a language learner." This is because vocabulary considered as one of the most essential elements of language and language learning (Nation, 2013). Lacking knowledge of vocabulary and sentence structure creates difficulties in students' reading comprehension

Vocabulary plays an important part in English language learning (Alqahtani, 2015). As Wilkins (1972) rightly puts it, "without grammar very little can be conveyed, without vocabulary nothing can be conveyed." In other words, without

sufficient vocabulary, it is difficult for learners to understand other people, comprehend learning materials, or express their own ideas. That is to say, in listening, students may not understand the conversation completely. In speaking they cannot express their ideas or communicate effectively. In reading students may not understand the text, and in writing students may not be able to write their own ideas. Learners, instructors, material writers, and researchers are the key element for corresponding in the learning and teaching process (Schmitt, 2008).

Many researchers illustrated the importance of vocabulary. This is because vocabulary is needed to convey meaning. Santos (1988) suggested that nonnative-speaking students should focus on improving their vocabulary and lexical selection. Laufer and Ravenhorst-Kalovski (2010) concluded that knowing more vocabulary helps reading comprehension of learners. Second language learners rely on vocabulary knowledge heavily. Without an expanded vocabulary, learners will not be able to use the structures and functions they have studied. Thus, vocabulary is an essential aspect of learning a language. According to Allen and Corder (1975), two main types of vocabulary faced by students are general vocabulary, those appears in all subjects, and technical vocabulary, words that have special meaning in particular

areas such as mathematics, social studies, and science. As language teachers, Thai students generally encounter problems or difficulties in learning unknown words and remembering new words found in the textbook. Many factors that can cause difficulties in learning vocabulary are spelling difficulties, phonological difficulties, syntactic properties of words, close meanings of words, false friends (words in two languages similar in spelling and pronunciation which means different things) and cultural differences (McCarthy, 1988). It is thus important for English language teachers to help students learn, use and remember English vocabulary.

Language learning strategies

Many researchers had referred learning strategies in different meaning. Rubin (1975), defined language learning strategies as "... the techniques or devices which a learner may use to acquire knowledge", while Oxford (1990) views as "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective and more transferable to new situations." O'malley et al. (1990) defined learning strategies as "…the special thoughts or behaviors that individuals use to help them comprehend, learn, or retain new information." In other words, language learning strategies are one of the important factors that affected student learning the second or foreign language. Special techniques, approaches, or tactics that help learners achieve their learning goals refer to strategies.

Classification of language learning strategies

The two main types of learning strategies are direct and indirect strategies (Oxford, 1990). The learning strategies are subdivided into six groups consisted of three direct strategies which are memory strategies, compensation strategies, and cognitive strategies, and three indirect strategies which are affective strategies, social strategies, and metacognitive strategies.

Memory learning strategies deal directly with learners' thinking process. It is the techniques including creating mental link between the existing knowledge to new information. Learners have to recall what they have learned as the background knowledge in order to understand the language.

Cognitive learning strategies are related to students' mind. This strategy involved with metal process, managing, and transform information. Learners can gain this strategy by practicing, repeating information, classify the knowledge, analyze and summarize the structure of language.

Compensation learning strategies occurred from guessing the targeted word from its synonyms and gestures explanation. Not only these strategies help learner to overcome the missing knowledge, especially when it comes to listening, reading, speaking or writing skill but also can help improving school (Odden et al., 2002). It allows learners to compensate the information gap by guessing and overcome the limitation of their knowledge.

Metacognitive learning strategies refer to when students used their mental process while reading. Learners thought about the process of learning the language and figured out ways to improve it. This learning strategy support learners in learning language by regulating learners' learning process. Learners can arrange, plan, and evaluate their own learning. Among the six learning strategies Goh and Foong (1997) concluded from their survey that metacognitive strategies are most frequently used by Chinese students.

Affective learning strategies are used to help learners to connect their emotion and feeling toward language learning. For example, learners may cry when they fail the examination. concluded that affective strategies can contribute learners' willingness to take action in the language learning and make essential action for learning.

Social learning strategies are when learners learnt from social interaction with other people. This learning strategy includes working with friends or collogues, ask questions about grammatical structure to teachers or ask more information for a clearer understanding from native speakers.

Overview of Language Games

Since English become a world language, foreign language has come into important part of the educational system. In teaching and learning process, there are many approaches and methods such as grammar translation approach, direct method, reform movement, audiolingual approach, oral-situation approach, cognitive approach, affective humanistic approach, comprehension-based approach, designer method, and communicative language teaching (Celce-Murcia, 2014).

Language games referred to as "the learning activities involving games were designed by teaching or practicing the content of the English textbook which indicated in the lesson plan" (Nitisakunwut and Soranastaporn, 2014). Language games involved with different language learning strategies and vocabulary learning strategies: memory strategies, cognitive strategies, compensation strategies, metacognitive strategies, and social strategies. Students will be using to all five learning strategies combining with vocabulary learning strategies while playing language games (Wattanakornpisarn et al, 2019). Memory strategies

will be applied by connecting new vocabulary in the game with their known word. Since these words were chosen from the course material, then they will the repetition of seeing the word. For cognitive strategies, students had to say and write new vocabulary learnt in the game several time. In some activity, learners have to skim through the reading passage, summarized, and discuss with their friends. In conversation, students had to guess the unknown word, act out, and using gesture. These actions considered as compensation strategies. Students will get to practice the vocabulary and reading with classmates. They can also ask for help from team members or friends which fall in to social strategies.

Wang and Chen (2010) have found that 115 articles were using game as teaching instrument in research. Kiili (2005) conducted a study on digital game using experiential gaming model. Liu and Chen (2013) studied the effect of game with 18 fifth grade learners towards their science knowledge after using the card game. The finding showed that students' performance after the games were significantly higher than before conducted game with them. Moreover, learners were satisfied with the GBL and the researchers claimed that game can motivate students' interest. Waiyakoon et al. (2015) conducted a research using game using scaffolding method with disability learners in Thailand. The researchers used instructional design as a model to develop game processes. Moreover, with the cooperative between Thailand and Japan, Tanwattana and Toyoda (2018) used game simulation to "simulate flood situations and make mutual decisions on how to manage flood scenarios by following roles, rules and scenarios of the game."

Methods

This research aims to develop ESP vocabulary games using ADDIE model together with Robert Gagné's nine events of instruction.

Branch (2009) asserted that "ADDIE is merely a process that serves as a guiding framework for complex situations, it is appropriate for developing educational products and other learning resources." The following are ADDIE model explained by Wijaya and Devianto (2019). The Analysis phase deal with students' background, learning objectives, and course materials. Design phase is a learning solution which consisted of vocabulary learning strategies and teaching process. Development phase is where the design has been arranged,validated, and developed. Implementation phase is when the ESP vocabulary games used as the teaching method. Evaluation phase is where the students evaluate their satisfaction towards the ESP vocabulary games. Therefore, this model is chosen as instructional design for ESP vocabulary games in this study.

In order to develop ESP vocabulary games followed the process from ADDIE model:

Step 1: Analysis

At this stage, the researcher analyzed the course objectives, learners' background information, course content, and materials.

Step 2: Design

At this stage, it is a learning solution that researcher applied Robert Gagné's nine events of instruction as the approach associated with the learning process (Gagné, 1965).

a) Gaining attention: before beginning the lesson, the instructors were recommended to draw students' attention such as pictures which related to the chapter in order to make an awareness of learning (Zhu and St. Amant, 2010). Gagné

claimed that this process related to cognitive learning process allowing learners to apply their prior knowledge to the new information.

b) Inform learners of objectives: it is recommended for instructors to inform the class objectives before beginning the lesson not only to prepare expectation but also can increase students' performance (Praphantateva, 2009).

c) Prior learning: it is to review students' previous knowledge and link them to new information (Celce-Murcia, 2014). For example, instructors can ask learners some questions related to new concept of the presented lesson.

d) Present content: the content chosen should be presented in the easy form in order for students to understand it clearly (Gagne, 1976).

e) Provide guidance: the instruction should be explained and draw upon the information such as questioning (Zhu and St. Amant, 2010).

f) Practice: according to Gagné this process is to enhance students' long-term memory. Learners will able to gain their knowledge by interaction teaching materials and asks questions to teachers and friends (Mongkol, 2008).

g) Provide feedback: a supportive feedback was recommended on students' assignment (Wion, 2008).

h) Assess performance is to measure learners overall understanding after received the treatment (Fulcher and Davidson, 2007).

i) Enhance retention and transfer is the final stage where knowledge is generalized and applied (Zhu and St. Amant, 2010).

Step 3: Development

At this stage, it is to create learning content together with the teaching material (Davis, 2013).

Step 4: Implementation

At this stage, it is the apply stage where the product from the design and development process occurred (Crawford, 2004).

Step 5: Evaluation

At this stage, it is the process where the test results will be calculated to validate and evaluate the performance of games (Arnab et al., 2015).

Results

Step 1: Analysis

Vocabulary is the fundamental knowledge of language acquisition, so it is necessary to enhance students with vocabulary knowledge (Nation, 2013). Consequently, from students' background and analysis results, ESP vocabulary games which are word cards game, rhyming game, and word sort game were chosen and design in the next phrase.

Step 2: Design

At this stage, it is where the process developed by Gagné (1965).

a) Gaining attention: As the warm-up stage, instructors can use teaching material to draw students' attention and allow them some time to get ready for the class.

b) Inform learners of objectives: Teacher has to inform the lesson objective at the beginning of the class.

c) Prior learning: At the stage, teachers can recall students' knowledge by reviewing previous lesson and connect the idea to new concept. For example, teacher can ask students to share ideas about the important of vocabulary, rhyming words, words category, and sentence structure.

d) Present content: Instructors can give some questions as a guideline for students to focus on or the task that they have to be completed.

e) Provide guidance: Teachers have to explain game instruction clearly. ESP vocabulary games instruction have to be well written. L1 can be used in order to make the rules and guideline easy for learners to understand.

f) Practice: Students get ask questions and do activities using design games in order to expand their vocabulary knowledge.

g) Provide feedback: corrective feedback such as repetition, recast, and explicit correction can be given to students after they finished the assignment.

h) Assess performance: In order to measure students' achievement, test will be distributed at the end of the class to compare mean score before and after learning through ESP vocabulary games.

i) Enhance retention and transfer are when teachers summarize the overall learning process and knowledge to students.

Step 3: Development

Researcher created the ESP vocabulary games which are rhyming game and word sort game.

a) Rhyming game developed to target at the understand learning stage together with applying learning stage. During the game, students will practice understanding rhyming sound and applying the knowledge to complete the game tasks. Learners can improve their memory vocabulary learning strategies by connect words with the familiar concepts. After the game, students expected to be able to create at least three rhyming words of each vocabulary.

b) Word sort game developed to combine analyzing and evaluating learning level together. During the game, students will practice analyzing words and evaluating its category. This game also

focused on cognitive vocabulary learning strategies. Learners have to connect the target words together with categorized its meaning and connection. After the game, students expected to be able to categized words given 80% correctly.

Step 4: Implement

The ESP vocabulary games is applied as teaching approach.

a) Rhyming game objective: students are able to create at least three rhyming words of each vocabulary. Game equipment are words cards and clock or timer.

Rules: All players allow speaking English only. All players have to present at least one rhyming word per one word-card. The team who gain score the most wins the game.

Roles: Committees' roles are to monitor students not to use Thai to communicate with each other, be a timekeeper, motivate quiet students to participate, make sure that everyone is obeying the rules, and help suggest and correct information. Players' roles are to create rhyming words as fast and as much as possible

How to play: Each team can pick any word to start with. Each team member creates rhyming words according to the targeted word in the circle twice. After each member able to create one rhyming word, the team get 1 point. Each team can change to the word until the time is over.

b) Word sort game objective: students are able to categized words given 80% correctly. Game equipment are words cards and clock or timer.
Rules: All players allow speaking English only. The team who gain score the most wins the game.

Roles: Committees' roles are to monitor students not to use Thai to communicate with each other, be a timekeeper, motivate quiet students to participate, make sure that everyone is obeying the rules, and help suggest and correct information.

Players' roles are to categorized words as much as possible

How to play: Each team help categorizing words according to their understanding. Write down words in each category. One word can be in more than one category. Each category earns 1 point and gain 1 more point for each word used in the category.

Step 5: Evaluation

In this study, ESP vocabulary games were chosen as its teaching instruction process which viewed as effective tools by comparing students' pre-test and post-test score, vocabulary learning strategies questionnaire, and analyzing students' satisfaction questionnaire.

Conclusion and Discussion

Language games are easy to construct, they were designed to facilitate learners' performance and vocabulary and learning strategies. Instructors can consider applying them to be one of the teaching instruments. Teachers can aid vocabulary and learning strategies such as memorization, using dictionary, analyzing, keyword, and many more by using language games in the classroom. By combining these games together with a little creativity in the lesson planning, it will not only promote students' engagement but also can make the vocabulary lesson become more effective learning process.

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