

A Development of Creative Instruction Model through Digital Media

Kathaleeya Chanda, Panupong Chanplin, Suppara Charoenpoom

Abstract—This purposes of the development of creative instruction model through digital media are to: 1) enable learners to learn from instruction media application; 2) help learners implementing instruction media correctly and appropriately; and 3) facilitate learners to apply technology for searching information and practicing skills to implement technology creatively. The sample group consists of 130 cases of secondary students studying in Bo Kluea School, Bo Kluea Nuea Sub-district, Bo Kluea District, Nan Province. The probability sampling was selected through the simple random sampling and the statistics used in this research are percentage, mean, standard deviation and one group pretest – posttest design. The findings are summarized as follows: The congruence index of instruction media for occupation and technology subjects is appropriate. By comparing between learning achievements before implementing the instruction media and learning achievements after implementing the instruction media, it is found that the posttest achievements are higher than the pretest achievements with statistical significance at the level of .05. For the learning achievements from instruction media implementation, pretest mean is 16.24 while posttest mean is 26.28. Besides, pretest and posttest results are compared and differences of mean are tested, the test results show that the posttest achievements are higher than the pretest achievements with statistical significance at the level of .05. This can be interpreted that the learners achieve better learning progress.

Keywords—Teaching learning model, digital media, creative instruction model, facilitate learners.

I. INTRODUCTION

ELECTRONIC media have been widely used in schools nowadays whether learners search for information through the internet or learn from videos and CDs. Electronic media enable learners to build body of knowledge and allow them to observe and learn from various situations as they are designed to enhance learning efficiency [1]. If instructors desire to change their status from media users to media creators, creating electronic media of entire lesson might be too complicated and time consuming. Learning object thus is applied for focusing on specific topics [9], [10].

As instructors still play crucial role in instruction nowadays, instructors mostly lecture, explain texts, allow learners to ask questions and assign tasks or exercises for learners. This routine makes learners feel bored and rarely express their

opinions in classes. As a result, it causes low learning achievements. This kind learning does not encourage learners to think, work as a team and practice speaking and listening skills. The learners eventually are unable to apply theories with work [6]. Hence, we aim to study learning development through digital media as a guideline for studying and developing learners to utilize information technology and digital media [7] wisely, including teaching model through computer and digital media, appropriate instructional media application and learning activity based on digital media [3].

II. LITERATURE REVIEW

A. Definitions of Teaching Model

In terms of education, definitions of model of teaching or teaching model and instructional model or teaching-learning model are variedly explained as follows:

1. Teaching model means teaching plan. A teaching model specifically focuses on one point; each teaching model therefore has different goals.
2. Teaching model means a plan used for teaching in classroom or small group for providing teaching media including books, movies, audios, computer programs and course curriculum. Each teaching model is a guideline for designing instruction that enables students to achieve objectives of the teaching model.
3. Teaching model means teaching plan applied in classroom to allow learning under determined objectives. The teaching plan reflects consequences under same foundation. The components of plan comprise of principles, objectives, contents, skills, teaching strategies, teaching methods, teaching process, teaching procedures and activities and assessment. [8]

B. Characteristics of Teaching Model

Scholars explained characteristics of teaching model as follows:

1. Teaching model consists of related key components. Even though each teaching model has similar key components, some models may contain different components.
2. Teaching intelligent learning system is developed. Teaching model for intellectual development should arrange environment that encourages intellectual development. Intellectual environment includes data, objects and situations. The teaching model thus should contain instructional procedures which practice action or thinking under an arrangement of data or situations to enable learners to have interaction systematically [2].

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C. Definitions of Learning

Learning is a process of experiences causing changes in behavior relatively permanent and such changes do not occur from temporary condition, maturity or instinct.

Learning is changes in behavior permanently caused by reinforced practice which is not natural response called reflective reaction. Learning is a process leading to changing behavior as a result of practice and experience but it is not a natural response. Learning reflects changing behavior resulting from experiences of each individual. Moreover, [11] learning is a process that an individual adapts his behavior to various situations until he can reach his goals.

1. Learning causes changing behavior
2. Learning is a result of practice
3. Learning is permanently changing behavior and becomes habit, which is not direct behavior.
4. Learning acknowledged from action resulted from learning and unable to be observed.

Therefore, learning means a process of changes in behavior from old behavior to new behavior permanently and new behavior is a result of experience or practice as it does not result from natural response, instinct, maturity, drugs or accident, or coincidence. The changing behavior must be permanent otherwise it is not considered as learning. When an individual learns something, there are changes as follows:

1. Changes in knowledge, comprehension and thought (Cognitive Domain) means learning relevant to new contents that enable learners to acquire knowledge of surroundings. It is changes in brain.
2. Changes in emotion, feeling, attitude and value (Affective Domain) means when an individual learns new thing, the learner has feeling in mind, belief and interest.
3. Changes in proficiency (Psychomotor Domain) means an individual learns in thought and comprehension causing feeling, value and interest, then apply the learning for practice until the individual obtains proficiency such as hand skill.

Nature of learning is a process consisting of followings:

1. Goal of learner means what learner needs or expects. Learning without goals is undesired result. Teacher should introduce goal of subject for learner.
2. Readiness is specific character and maturity of learner. In the same situation, one who is more ready can learn better. It is necessary to build motivation to learners to make them ready to learn.
3. Situation means environment or stimulation affecting learners, for example, instruction and situation. Human or animal can learn better when they have experiences in real situations
4. Interpretation is studying situation or planning to reach goals by considering environment or situation. There are several methods to reach determined goals. Choosing which way significantly depends on competency in interpretation.
5. Action, when learners interpret, they will respond to situation or stimulation immediately. The learners definitely expect that it is the best way to reach

determined goals.

6. Consequence, after responding to stimulation or situation, the result may be successful and make learners confirm. However, it may be unsuccessful, the learners feel contradict. The success is stimulation to redo the same activity. On the other hand, the failure will make learners feel distressed to response or do again.
7. Reactions to contradict are possible in 2 ways: improve behavior to reach desired goals by reconsidering or interpreting situation or stimulation and then seek appropriate behavior to reach stipulated goals or otherwise never do such activity again or repeatedly do without successful results.

D. Learning Theory

Learning is a process of changing behavior and thought. An individual can learn from hearing, touching, reading, using technology. Children and adults have different learning processes. Children learn and ask in classroom while adults learn from experiences. Learning comes from experiences proposed by instructor. The instructors create psychological environment supporting learning, such as intimacy, strictness, or discipline. The instructors determine learning conditions and situations for learners. Hence, instructor should consider teaching model and interaction with learners.

1. Retention Theory indicates that learning ability depends on ability to collect data and regain data including form and quantity of data and then apply it for practice.
2. Transfer learning theories between similarities for old and new information. This theory also depends on retained primary data.
3. Motivation Theory suggests that learning ability depends on intention to learn as well as interest, anxiety, success and outcomes. For example, when children do something successful, they are eager to do again.
4. Active Participation Theory explains that learning ability depends on eagerness to learn and participate. The more eagerness and participation to learn, the more learning ability.
5. Information Processing Theory comprises of two parts:
 - 1) ability in short term memory of brain. As brain can collect data in chunking approximately seven group of data. 2) The chunking might be number, word, position of chess or expression on face. TOTE or Test-Operate-Test-Exit proposed. It is estimated whether an action achieves objectives. If considered does not achieve objectives, it is required to repeat to achieve objectives. This theory is about problem solving [12].
6. Constructionism: Shaw states that he had ever thought that constructionism is learning but in fact it involves more than learning because it can be applied in learning condition. Shaw conducted study on learning and development. He believes that education system is significant to social structure. Children who receive one method or model lose opportunity to develop other factors. Likewise, if society has only one model, it will lose opportunity to have other structures or develop into

other factors [11].

III. PURPOSE OF STUDY

1. To enable learners to study and learn from instructional media;
2. To enable learners to use instructional media appropriately;
3. To facilitate learners to apply technology for searching information and practicing skills to implement technology creatively.

IV. RESEARCH METHODS

1. Population: The sample group consists of 130 cases of secondary students of Bo Kluea School, Bo Kluea Nuea, Bo Kluea, Nan Province.
2. Techniques and Random Methods: The technique is probability sampling and the random method is simple random sampling.
3. Research tools: The tools used for gathering data are:
 - 3.1 Questionnaire is used for exploring teaching model of the school;
 - 3.2 Interview form is made with instructors who need researcher to assist in developing teaching model for developing instruction.
 - 3.3 The knowledge sharing and disseminating on teaching plan form in 5 models to provide for each instructor before preparing their own teaching plans.
 - 3.4 Student achievement form to process data and compare pretest and posttest.
4. Creation and methodology of quality research tools
 - Phase 1: Study and analysis of needs and conditions
 - Phase 2 Create and development of teaching.

V. RESULT

The sample group comprises of 130 cases of secondary students, Bo Kluea School, Bo Kluea Nuea, Bo Kluea, Nan Province.

TABLE I
INDEX OF CONSISTENCY (IOC) OF INSTRUCTIONAL MEDIA OF OCCUPATION
AND TECHNOLOGY SUBJECTS

No.	Mean	S.D.
1	0.80	0.45
2	1.00	0.00
3	1.00	0.00
4	1.00	0.00
5	0.80	0.45
6	1.00	0.00
7	1.00	0.00

According to Table I, the implementation of instructional media through digital media of occupation and technology subjects has index of consistency (IOC).

According to Table II, learning achievement of posttest is higher than pretest with statistical significance of .05 level. Meantime, the mean of pre-test is 16.24 and the mean of post-test is 26.28. T-test is 15.384.

TABLE II
COMPARISON OF LEARNING ACHIEVEMENTS BEFORE AND AFTER
IMPLEMENTING DIGITAL INSTRUCTIONAL MEDIA

Tests	Number of Attendants	Mean	S.D.	t-test
Pre-test	130	16.24	2.77	15.384*
Post-test	130	26.28	2.65	

*Statistical Significance level = .05

VI. SUMMARY

According to the implementation of instructional media with secondary students of Bo Kluea School, Bo Kluea Nuea, Bo Kluea, Nan Province, the results are concluded as follows:

1. Analysis on the efficiency of instructional media with measurement 80/80, the results prove that efficiency of each topic is higher than the criteria.
2. Learning achievements after implementing instructional media, mean of pretest is 16.24 and mean of posttest is 26.28.
3. Compare results pre-test and post-test for the difference of mean, the results reveal that learning achievement of posttest is higher with statistical significance at .05 level. It is interpreted that learners have learning progress.

VII. DISCUSSION AND SUGGESTIONS

A. Discussion

The test results prove that learning achievements of occupation and technology subjects by implementing instructional media are higher than the specified criteria.

B. Suggestions

1. Digital media is suitable for applying with individual learning as learners are able to study further outside the class rather than implementing digital media in the classroom.
2. Using digital media requires access to the internet network but sometimes the computer network slows down. As a result, it is not convenient for learners. Instructor should coordinate with the school's internet network administrator to prevent such obstacles. [5]

C. Suggestions for Instructional Media Creation

1. Digital media creation should present details of content to emphasize concepts before learners doing activity card during study. In case that learners find that the conclusion is different from initial understanding, they can revise the lesson before doing activity card. In addition, the research results support that the conclusion benefits learning.
2. Digital media has been developed slowly because instructors must have knowledge on computer and have tools to develop their own media. If instructors do not have skills and tools to design lessons by themselves, it may affect instruction development. Thus, it is recommended to establish a central organization equipped with tools and experts to support and provide various research documents, media development will efficiency and effectiveness again [4].

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