COMBINATION OF CONSTRUCTIVIST LEARNING, SRL (SELF REGULATED LEARNING), AND SCL (STUDENT CENTERED LEARNING)USING E-LEARNING

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ABSTRACT

The higher education academy still implement behaviorist learning in their learning process. Behavioristlearning is a learning that only observable, measurable, outward behavior is worthy of scientific inquiry. Therefore, the behaviorist learning only focus on changes in behavior. However that behaviorist learning method is less suitable to be implemented in learning process. Learner can implement new method that is known as constructivist learning. It can be combined with other concepts like SRL (Self Regulated Learning) and SCL (Student Center Learning). Constructivist learning design assumes that learning takes place as students construct their own meaning as they study with peers or apply new learning outside of school. The other concept is self regulation learning that is students' ability to manage their thoughts, behaviors, and emotions in order to succesfully navigate their learning experiences. That concept is suitable with other concept that is student centered learning. It is an approach to learning in which learners choose not only what to study but also how and why. The conclution from the discussion is that the combination of constructivist learning, SRL, and SCL is useful for improving student independence in learning process. If the student can regulate themselves, then these students will also have awareness to learn by themselves. This can be taught through the concept of constructivist learning, SRL, and SCL so that we need methods that can implement a combination of all three concepts. The learning method that can be used is e-learning that use technology to deliver or provide teaching through the help of computer technology either with or without internet internet. The existence of the e-learning enable students to learn individually or independently to be active in the learning process. Method of learning with e-learning can be applied in learning model. The learning model development can be done with 4D method that is Define, Design, Develop, and Disseminate.

A. INTRODUCTION

Most of the academy higher education still use behaviorist learning method that emphasize rule and guidance of their academy. Behaviorists believed that only observable, measurable, outward behavior is worthy of scientific inquiry. Hence, their focus was on learning as affected by changes in behavior. They concluded that given the right environmental influences, all learners acquire identical understanding and that all students can learn(Weegar & Pacis, 2012).

Behaviourists regard all behaviour as a response to a stimulus. They assume that what we do is determined by the environment we are in, which provides stimuli to which we respond, and the environments we have been in in the past, which caused us to learn to respond to stimuli in particular ways. However that behaviorist method is less suitable to be implemented in learning process. Students need new method that can construct their knowledge to gain their learning results. That method is known as constructivist learning. However it can be combined with other concepts like SRL (Self Regulated Learning), and SCL (Student Center Learning).

Constructivist learning design was believed that learning is both individual and social process of constructing meaning. Constructivist learning design assumes that learning takes place as students reflect on what was taught and construct their own meaning as they study with peers or apply new learning outside of school (Gagnon & Collay, 2006:3-4). The other concept is self regulation learning. Students' ability to manage their thoughts, behaviors, and emotions in order to succesfully navigate their learning experiences in known as self-regulated learning (Germeroth & Day-Hess, 2013:3). Moreover, the other concept is student centered learning that is an approach to learning in which learners choose not only what to study but also how and why. Learners find learning process more meaningful when topics are relevant to their lives, needs, and interests, and when they are actively engaged in creating,understanding, and connecting to knowledge(AIR, 2010).

Based on that literature and phenomenon, the objective of this research is to develop model that combine constructivist learning, SRL (Self Regulated Learning), and SCL (Student Center Learning).

B. RESEARCH METHODOLOGY

This research are qualitative research which is collecting data on a natural background, using natural methods, and conducted by a person or researchers who are interested in nature. The aim is to describe, summarize a variety of conditions, different situations or various phenomena of social reality in the community became the object of research and aims to attract that reality to surface as a trait, character, nature, model, sign or picture of the condition, situation or particular phenomenon (Semiawan, 2010: 72). Therefore, this research describe the conditions or situations to develop a combination model of constructivist learning, SRL (Self Regulated Learning), and SCL (Student Center Learning) using E-Learning.

This research used literature review that is a comprehensive study and interpretation of literature that relates to a particular topic(Aveyard, 2014:2). The literature used in this research are related to E-learning, constructivist learning, SRL (Self Regulated Learning), And SCL (Student Center Learning), and about developing learning model. For the first step, researcher collect all of the literature that are being used. After that the literature will be reviewed to make the model. Framework of this research is shown by the figure 1.

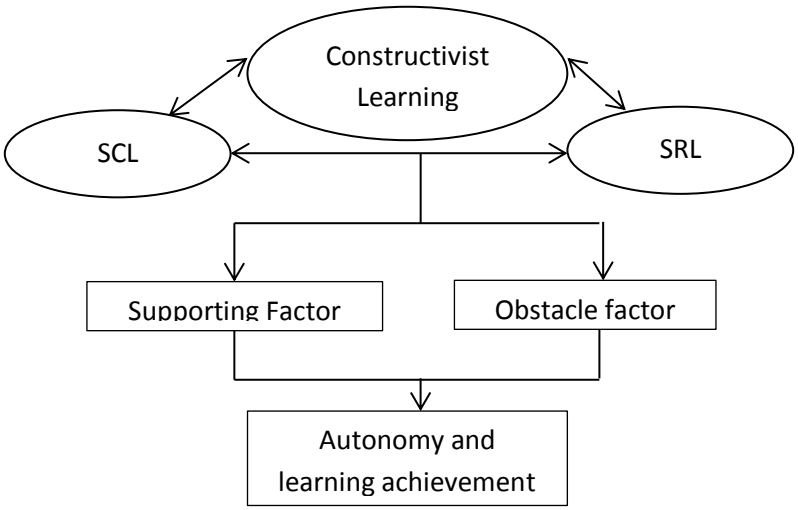

Figure 1. Framework of The Study

C. DISCUSSION

1. E-Learning

E-learning has various definition and perseption from several references appropriate with the context of e-learning implementation. E-learning can be defined as computer-based learning sources which is designed to help learning individually or to achieve organization goals. E-learning can be referred to everything that can be delivered, and mediated by technology for learning objectives explicitly (Wicaksono, 2015:7). Therefore, e-learning is learning with utilizing electronic technology as presentation tools and information distribution (Suryana, 2012:16-17).

E-learning involves three component. They are (Wicaksono, 2015:8):

1. E-communication. It is all of the thing that related to communicating learning materials, such as video, e-email, or digital library.
2. E-training, which has learning structural approach and LMS (Learning Management System).
3. E-assessment that has test as an indicator of learning result until to the sertification process.

E-learning is devided into four layers. They are(Wicaksono, 2015:9):

a. Definition layer presents the goal of e-learning
b. Didactic layer presents the idea behind the e-learning implementation.
c. Tutorial layer involves study material from e-learning
d. Presentation layer that is the main display of e-learning

There are some misunderstood in several schools or universities. Most of the learner assume that e-learning is only a place to upload or download the learning material from tradisional class and to place the computer-based tutorial made with software, such as power point, etc. Therefore, the student do not support the implementation of e-learning. Other

misunderstood is the assumtion that learner can study by themselves from other place individually using e-learning. It will make teacher ignoring e-learning arrangement that can gain learner motivaation. To solve those misunderstood, there are some things that can be considered on implementing e-learning. They are(Wicaksono, 2015:11):

a. Learning need
b. Learning style reference
c. Time
d. Added value from implementing e-learning.

E-learning development strategy is a step placingactivity that can make the content of e-learning right on target both learner and organisation need. If e-learning has good development strategy, the learning process will has high effectivity (Wicaksono, 2015:11). Student in university can implement e-learning on their learning process so the role of teacher as a center of learning will decrease. Therefore, student will be more active in the process of creating learning material rather than their teacher. The implementation of e-learning using collaborative and interactive model will be more interesting rather than those which only use graphic or other multimedia.

2. Constructivist Learning

Constructivist learning design was born from the idea that learning is both individual and social process of constructing meaning. The concept of constructivist learning is organizing learner because the focus is on what students will do to learn and what the teacher will do to inspire and support that learning. Constructivist learning design assumes that learning takes place as students reflect on what was taught and construct their own meaning as they study with peers or apply new learning outside of school (Gagnon & Collay, 2006:3-4). The six elements of constructivist learning design are(Gagnon & Collay, 2006:4-6):

1. Designs a situation that describes the purposes, determines a topic, and decides an assessment for student learning.
2. Organizes groups of students, materials, and furniture to facilitate meaning making.
3. Builds a bridge between what students already know and what they are expected to learn by describing students' developmental level, socioeconomic circumstances, and cultural background, surfaces their preconceptions, and makes connections to their lives.
4. Crafts a task for students to accomplish that anticipates questions from students as they engage in tasks, considers responses to these questions so that students will sustain thinking, and describes how students are learning by makin social meaning during tasks.
5. Arrange an exhibit for students to demonstrate the rsults of their collaborative thinking by producing artifacts as a result of their learning, making presentations of these artifacts, and offering explanations about how they made social meaning.
6. Invite reflection by students on their process of thinking during the learning episode through feelings in theoir emotional and physical responses, images intheor sensory representations, and languages in their consideration of shared and common meanings.

The relationship among six elements and chronological sequence that recommended for designing and suppporting constructivist learning can be seen in figure 1.

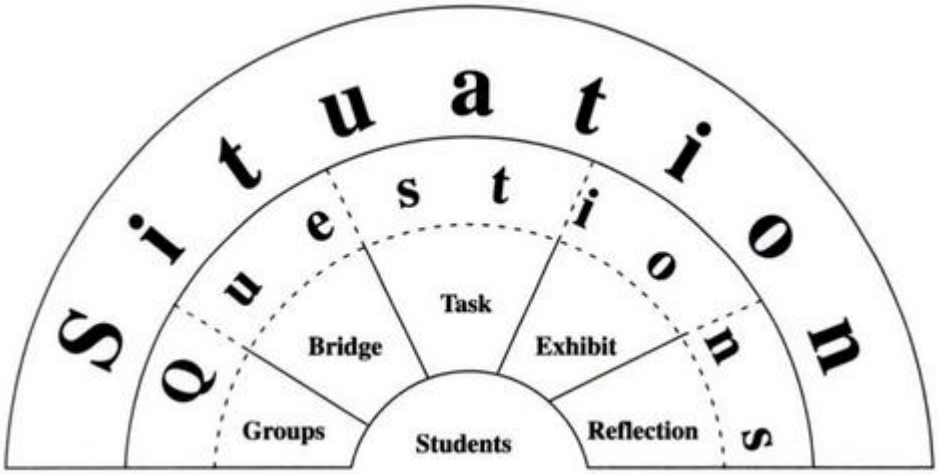

Figure 1. The Relationship Among Six Elements of Constructivist Learning Design

Source: (Gagnon & Collay, 2006:6)

The characteristics of constructive learning are (Bhattacharjee, 2015):

1. Multiple perspectives and representations of concepts and content are presented and encouraged.
2. Goals and objectives are derived by the student or in negotiation with the teacher or system.
3. Teachers serve in the role of guides, monitors, coaches, tutors and facilitators.
4. Activities, opportunities, tools and environments are provided to encourage meta cognition, self -analysis-regulation, -reflection & awareness.
5. The students play a role in mediating and controlling learning
6. Learning situations, environments, skills, content and tasks are relevant, realistic, and authentic and represent the natural complexities of the real world.
7. Primary sources of data are used in order to ensure authenticity and real-world complexity
8. Knowledge construction and not reproduction is emphasized
9. This construction takes place in individual contexts and through social negotiation, collaboration and experience.

10. The learner's previous knowledge constructions, beliefs and attitudes are considered in the knowledge construction process.
11. Problem-solving, higher-order thinking skills and deep understanding are emphasized.
12. Errors provide the opportunity for insight into students' previous knowledge constructions
13. Exploration is a favoured approach in order to encourage students to seek knowledge independently and to manage the pursuit of thir goals
14. Learners are provided with the opportunity for apprenticeship learning in which there is an increasing complexity of tasks, skills and knowledge acquisition
15. Knowledge complexity is reflected in an emphasis on conceptual interrelatedness and interdisciplinary learning
16. Collaborative and cooperative learning are favoured in order to expose the learner to alternative viewpoints.
17. Scaffolding is facilitated to help students perform just beyond the limits of their ability.
18. Assessment is authentic and interwoven with teaching

3. SRL (SELF REGULATED LEARNING)

Self regulation is the ability to control the body and self to manage one's emotions and to maintain focus and attention. Self regulation in class is needed by the students to interact appropriately with others in the classroom. Self regulation in the clasroom is something that can be taught and modeled through student's schooling. Students' ability to manage their thoughts, behaviors, and emotions in order to succesfully navigate their learning experiences in known as self-regulated learning (Germeroth & Day-Hess, 2013:3). The phase of self regulated learning are(Germeroth & Day-Hess, 2013:3-4):

1. Forethought phase

   In this phase, students consider how much they care about what they are about to do and how well they believe they can do it. The students set goals for themselves and plan how they will approach the challenge or solve the problem.

2. Performance phase

   In this phase, student consider what is or is not working and what is or is not engaging or rewarding. Critically, student also decide whether they need help or guidance, whether they will stick to a task or abondon it and what adjustments they need to make to comple the work.

3. Self-reflection phase

   The students respond to and reflect on the task and its outcomes. In this stage, the students will apply these self-judgments to future learning, which will then effect the next forethought phase.

Students can be self-regulated learner with keep practicing and have the right teacher who support all of them. Teacher have role to help students manage their thoughts, behavior, and emotions in the classroom by modeling appropriate strategies and creating supportive academically challenging learning environments (Germeroth & Day-Hess, 2013:4). It also support the result of research that teachers were identified as the most common source of SRL strategies with important formative experiences occuring during the first two years of high school (Effeney, Carroll, & Bahr, 2013).

4. SCL (STUDENT CENTER LEARNING)

Student centered learning is an approach to learning in which learners choose not only what to study but also how and why. At the heart of the learning environment are learner responsibility and activity in contrast to the emphasis on instructor control and coverage of

academic content found in conventional, didactic teaching. Additionally, learners find the learning process more meaningful when topics are relevant to their lives, needs, and interests, and when they are actively engaged in creating,understanding, and connecting to knowledge(AIR, 2010).

Student-centered learning is a system of instruction that place the student in its heart. The goal of student centered learning can be achieve if the teachers and students recognize that learning is a process shared by both student and teacher (Ang, et.al., 2001:2). The student-centered model requires that instructors see each learner as distinct and unique. This means recognizing that learnersin any classroom learn at different rates with different styles, they have different abilities and talents, their feelings of efficacy may vary, and they may be in different stages of development. In this model, learning is a constructive process that is relevant and meaningful to the learner and connected to the learner's prior knowledge and experience(AIR, 2010).

5. Developing Learning Model by Combining Constructivist Learning, SRL (Self Regulated Learning), and SCL (Student Center Learning) Using E-Learning

Constructivist learning is learning that emphasizes the process and freedom in exploring knowledge and effort in constructing experience. The learning focus to students is about what will be learned so that students can be more active in the learning process. This is consistent with the concept of Self-Regulated Learning which reinforces the concept that students can regulate themselves. If students can regulate themselves, then the student know how tobehave during the learning process. The self-regulated learning can be taught by the teacher to the students so that students are expected to learn by themselves and the role of teachers as learning centers will be reduced. Thatis the concept of student-centered learning.

The concept defines that students would find it useful if the student is involved in creating, understanding, and related to the knowledge.

To support that cominaton concept of constructivistics learning, SRL, and SCL, we need better learning methods that is appropriate with the concept. The learning method can use e-learning that using computer technology in learning process so that students can improve their learning process independently. E-learning is everything presented or taught and mediated by technology with academic purposes. It is useful to improve the processes and student learning outcomes. The existence of the e-learning as well as one of the technology application development follows the increasingly dynamic needs of the community. Therefore, in the students' learning requires the application of technologies such as through e-learning. The implementation of e-learning as a method of student learning can be implemented in a learning model that can be structured and planned well by teachers. That development model can use 4D method that is Define, Design, Develop, and Disseminate. The description of 4D method are (Thiagarajan , Semmel, & Semmel, 1974:5-9):

1. Define

   The purpose of this stage is to stipulate and define instructional requirements. In this stage will prescribe objectives and constrains for developing the model. The five steps of stage are:

   a. Front-end analysis

      Front-end analysis is the study of the basic problem facing the teacher trainer: toraise the performance levels of special education teachers. In this stage, teacher do initiate diagnostic to gain learning efficiency and effectivity.

   b. Learner analysis

      Learner analysis is the study of the target students-special education teacher trainees. This stages study the characteristics of learner that are entering competencies and

background experiences; general attitude toward the instructional topic; and media, format, and language preferences.

c. Task analysis

Task analysis is the identifying of the main skill to be acquired by the teacher trainees and analysing it into a set of necessary and sufficient subskills. In this stage, teachers analyze main skill that has to be mastered by learner to achieve minimum competencies.

d. Concept analysis

Concept analysis is the identifying of the major concepts to be taught, arranging them in hirarchies, and breaking down individual concepts into critical and irrelevant attributes.

e. Specifying instructional objectives

Specifying instructional objectives is the convereting of the results of task and concept analysis into behaviorally stated objectives. In this stage, teacher write learning objectives, expected behavioral change after studying with operational verb.

2. Design

The purpose of this stage is to design prototype instructional material. After the behavioral objectives have been established, this stage will start to begin. This stage include selecting media and formats for the material and the production of an initial version constitute the major aspects of the design state. Designing stage has four steps that are:

a. Constracting criterion-referenced tests

Constacting criterion-referenced tests is the step bridging Define and Design process. In this steps, teacher will arrange criterion test as the first act to know learner initial skill and to be used as evaluation tool after implementing the activity.

b. Media selection

Media selection is the selection process of appppropriate media for the presentation of the instructional content. This stages involves matching the task and concept analyses,learner characteristics, production resources, and dissemination plans wih various attributes of different media.

c. Format selection

Format selection is closely related to media selection. The selection of the most appropriate format depends upon a number of factor,' which are discussed.

d. Initial design

Initial design is presenting of the essential instruction through appropriate media and in a suitable sequence. It also Involves structuring various learning activities such as reading a text, interviewing special education personnel, and practicing different instructional skills by teaching peers.

3. Develop

The purpose of this stage is to modify the prototype instructional material.In the development stage, feedback is received through formative evaluation and the materials are suitably revised. The steps in this stages are

a. Expert appraisal

It is a techrique for obtaining suggestions for the improvement of the material. A number of experts are asked to evaluate the material from instructional and technical points of view.

b. Developmental testing

It involves trying out the material with actual trainees to locate sections for revision. On the basis of the response 3, reactions, and comments of the trainees, the material is

modified. The cycle of testing, revising, and retesting is repeted until the material works consistently and effectively.

4. Disseminate

Instructional materials reach their final production stage when developmental testing yields consistent results and expert appraisal yields positive comments. The steps of this stage are validation testing, packaging, and diffusion and adoption. In its validation testing phase, the material is used under replicable conditions to demonstrate "who learns what under what conditions in how much time. The terminal stages of final packaging, diffusion, and adoption are most important although most frequently overlooked. A producer and a distributor must be selected and worked with cooperatively to package the material in an acceptable form.

D. CONCLUSION AND SUGGESTION

Based on the discussion, we can conclude that the combination constructivist learning, SRL, and SCL is useful for improving student independence in learning process. If the student can regulate themselves, then these students will also have awareness to learn by themselves. This can be taught through the concept of constructivist learning, SRL, and SCL so that we need methods that can implement a combination of all three concepts. The learning method that can be used is e-learning that use technology to deliver or provide teaching through the help of computer technology either with or without internet internet. The existence of the e-learning enable students to learn individually or independently to be active in the learning process. Method of learning with e-learning can be applied in learning model. The learning model development can be done with 4D method that is Define, Design, Develop, and Disseminate.

Suggestions given to teacher education is to apply the concept of a combination of constructivist learning, SRL, and SCL at school level academy. This is necessary so that students can independently construct their own knowledge based on learning process in the class and improve student learning achievement.

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