INTERACTIVE LEARNING AND COMPETENCY BASED LEARNING IN B-LEARNING

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Abstract: Related with the interactive learning approach presented in [7], this article aims at mentioning to some characteristics of the interactive environment in B-learning and some theoretical basis of the relationship between interactive learning in B-learning and competency based learning in B-learning. A framework for interactivity and some of measures to enhance interaction in competency based learning in B-learning, through survey, research and interviews in a specific case will also be given.

Keywords: interactive learning, competency based learning, B-learning

1. INTRODUCTION

Interactive learning (IL) has been interested by many researchers and widely applied in education and training. Beside that, Competency Based Learning (CBL) is a common trend of global education, as well as a vital perspective in the fundamental and comprehensive innovation of Vietnamese education in the present stage ([2], [3]).

While changing educational philosophies, many problems in the CBL such as method of assessment, teaching and learning methods, etc... need to be set out and processed. In which, proposing a teaching and learning model and/or method for advances of science and technology to enhance the competency of the learner is a problem that many people have been interested. Blended learning (B-learning - BL) is a combination of traditional face-to-face teaching and learning with the help of information and communications technology based on Web technology, a teaching model concerned for improving the quality of teaching and learning.

Combining all IL, CBL and BL to exploit their advantages is an intuitive approach. However, many problems have to be resolved for successfully execution this interesting direction. The most important ones are described bellows. First of all, what is the relation between B-learning and CBL? How can B-learning model support to CBL?, through this, learners are towards to the necessary competencies and conversely, how will CBL impact on the implementation of new teaching method, B-learning? These questions, along with the theoretical basis and the initially experimental results, we were mentioned in [6].

Next, the relationship between IL and CBL is a matter of concern. How does IL affects the competence development of learners, and what are the advantages of IL when

combining with CBL. In the other side, are the view point and characteristics of CBL suitable for IL?

Furthermore, what are characteristics of B-learning interactive learning environment? How to enhance the interactivity and efficiency of interaction in teaching and learning methods are used as the basis for the design of an online course?

Answers to all the above questions are mentioned in the following sections of this article.

2. INTERACTION ON B-LEARNING

Interactive learning concept is considered in the interactive learning theoretical, approaching by interactive pedagogy of Roy-Denomme - a neuroscientific approach of learning and teaching - considered the learning process is a process of specific interaction (interactions revolve around learning engine) between the three actors: students; teachers and the environment. In which, the learner is the center, the teacher take the role to guide and help and the environment has a significant influence [7].

The basic concepts and principles of interactive teaching theory are expressed through five sets of triplet ([3]): *agent; operations; interaction; principles; behaviours*, which were introduced under its own interpretations in [7].

It was found that four core processes of IL: build knowledge of learners; collaborative learning; self-assessment learning, self-regulation by the learners; learning through experience. In the process of creating knowledge, the students clarify new information gained from the knowledge and their own experience. In collaborative learning process, the learner builds knowledge through interaction between the learners and the teachers, and between the learners and teachers and social interaction. Those two elements make up the two basic cycles of knowledge creation process in collaborative learning [9]. The process of self-regulation, self-assessment of learners include self-regulation in established learning objectives, self-observation, evaluating and effort of their self ... this is the internal interaction (intra-action) of learners. Experiential learning process of the learners, it is the interaction between the learners and the interactive environment in learning, to address the situations in practice. In which, follow [7] interactive environment in learning, which means a combination all that is left outside duo: the learner - the teacher. Environmental terms are also used to indicate the set of all that are outside an element or any subset, concerned by the learners. Through solving the problem, the learner develops skills and critical thinking, helping to improve their competence.

B-learning is a form of learning, which combines face - to - face learning and E-learning. Due to technology changes, the level of interaction between the interactive triplet in interactive teaching environment is also different, when compared to traditional teaching environment.

There have been many results of the interactive teaching in E-learning, in [4] we also analyzed the impacts of the tools in the E-learning with four main interactive styles of

teaching: the learners - content, the learners – the learners, the learners - the teachers, the learners - technological means. Besides that, with the view of constructive learning,, the levels of interaction in teaching are: Listen - Read; Respond – Practice; Explore – Interpret; Create – Generate. With those levels, when constructing online course as well as designing the learning process, especially the learning process based on constructive - interactive learning method, we need to care about the factors such as: the participation in forums of the learner; the number and quality of the answers on the forum; the amount and quality of feedback messages about lessons to teachers; the solutions to solve the problem of the learners; the information is given to collaborate to address learning issues; the quality of the conversations… to evaluate the effectiveness of interaction in teaching and learning. The teaching methods should be applied to better improve the efficiency of IL on E-learning have also been presented in [4].

In [1], the authors showed three models to approach pedagogy on E-learning:

Content Support Model	Interactive Model	Combined Models
Focus on learning content	Focus on the learners	Focus on group learning
Based on the transmission of learning content model.	Based on the learning activities and different learning materials	Based on the collaborative learning activities
Personal learning orientation.	Driven by individual learning and small groups	Driven by cooperative learning groups
less interaction and cooperation with other learners	Interact with other learners	Cooperative and peer learning

Thus, interaction model as well as combined model in B-learning are toward interactive learning and oriented collaboration, focused on the learners.

In [10], the authors have launched the comparisons of interaction teaching strategies between B-learning and e-learning and traditional face - to - face teaching.

Through the above analysis, we have identified and clarified the relations between the learners and B-learning environment. Furthermore, we pointed out the means and ways to make use of the positive effects and minimize the negative impacts of B-learning environment for teaching and learning.

3. INTERACTIVE LEARNING AND COMPETENCY BASED LEARNING

The nature of IL is views and teaching methods, which based on neuroscience of learning and teaching and CBL is teaching and learning objectives, from that goal leads to its basic characteristics. When summarizing the theory of the training approach based on the competency, Paprock pointed out five basic characteristics of this approach ([8]).

1. Competency approach based on the philosophy of learner-centered;

2. Competency approach to meet the demands of professional activities;

3. Competency approach is oriented to real life and professional activities;

4. Competency approach is very flexible and dynamic;

5. The competencies at the learners are formed explicitly. The competencies are the content of career standards.

Obviously, basic characteristics of competency approach learning are also the goals achieved when using IL perspective in learning. In [7], with interactive learning technology perspective, it also indicates that we mentioned below. Especially the learner-centered philosophy and learning is oriented to real life and real career activities, to meet the demands of career activities.

With the learner-centered philosophy and competence is the combination of knowledge; skills; attitudes and psychological and physical characteristics and personal qualities, CBL needs to personalize the learners. Characteristics of competency based on learning in relation to the process of personalized learning also the characteristics of teaching standpoint IL are analyzed below.

Training oriented to competence approach allows personalizing the study, which is also the point of view of the IL. Personalized learning can help students achieve the knowledge related to interests and their aspirations. Each student should have their own learning plan. Each individual should demonstrate the maturity by mastering the learning objectives in their planning, to be able to advance on a higher level. The different directions with the appropriate interactions should be provided in time that the learners expect.

Competency approach focuses on outcomes. Students should be given the right to determine the extent of their competence they need to achieve. Each learner set their learning goals for teachers, participated in identifying their learning process.

Competency approach creates flexibility to achieve these outcomes, in ways consistent with individual characteristics and circumstances. It help to clearly identify what needs to be achieved and the criteria for measuring the results. The achievements of learning towards competency, including the application and creation of knowledge, along with the development of skills and inclinations of the learner.

When referring to curriculum based on competence, the authors in [2], [6] pointed out the basic characteristics of this curriculum.

The goal of education: The learning results achieved are described in detail and can be observed and evaluated; showed the advance of the learner continually.

Educational content: Select the contents in order to achieve outcomes in association with practical situations, the curriculum only stipulate the main content without details.

Teaching methods: Teachers mainly support students for self-reliance and obtaining knowledge positively, focusing on the development of problem-solving ability, interpersonal ability. Teachers also emphasis on use of views, methods and techniques of active teaching, teaching methods practical experiments.

Form of teaching: organising a variety of studying methods; focusing on the extracurricular social activities, scientific research and creative experience; accelerating the application of information technology and communication in teaching and learning.

Evaluate learning outcomes: Evaluation criteria are based on the outcomes, pay attention to the advance in the learning process, focusing on their ability to apply in practical situations.

Obviously, the key components of the CBL are fully compatible with the philosophy of the IL.

4. AN INTERACTIVE FRAMEWORK FOR COMPETENCY BASED LEARNING ON B-LEARNING

In recent times, we have implemented online courses and carried out B – learning model with Introduction to Database System course [11]. The theoretical basis and details of the implementation of the above courses through B-learning model, please see the documents [4, 5, 6]. With theoretical basis of interactive learning in [7] and through practical research, we propose an interactive framework for CBL on B-learning, with the key elements of the framework as follows:

Pedagogical philosophy and learning theory: It is constructive - interactive learning. Learning is the process of absorbing the sustainable increase (or renewal) about awareness and behavior of an individual through interaction with the environment ([7]). It is the cognitive theory, learning is the process of changing perceptions.

Identify the purpose and task of learning: With the application of teaching - self-study module and Webquest method to organize the course, along with project based learning methods and authentic assessment method through reporting product of group projects. Therefore, the purpose and task of learning are clearly stated at the beginning of the course and in each modules. Learning activities in each module are also clearly stated about learning tasks which should be done by learners.

Creating motivation for learners: Through surveys and interviews with learners, we found that in B-learning, to learn well, learners need to have a really competence motivation. The motivation comes from the inner of learners. In current situation, having a job is very difficult, so pedagogy students taking part in our practical course above have practical motivation from competence of their future job. Experiments showed that the components of course need to be considered when designing a course related learning environment including: content and structure of the course; the teaching and learning activities carried out in the classroom; the learning support tools such as glossaries; notes… The course is not merely a document resource. Moreover, the course needs to be flexible, accessible but unlimited space and time; takes note of the cultural norms of the academic community; responsive to adaptive learning [4].

Tools for supporting consciousness and super-consciousness: tools helping to check assessment and self-assessment, regulate the studying process, refer [5] for more details.

Collaborative learning strategies: Through surveys about real situation, it showed that learning habits to get the score, familiar with the reproduced examination ... so the important collaborative learning strategies such as: raises the question in the discussion; working group; group games; learning by discussing... is needed to improve for students now.

The following learning activities can be done quite easily on some course management system common: homework and exercises provided in courses; Announcements, Links to provide abundant learning resources for learners; multiple-choice questions; group assignments; the class discussion; forums …

The forums with the support of the social network Facebook is an interesting example of the construction of the course related to the cultural trends of the learning community.

The role of teachers: Teachers not only impart knowledge but also support for teaching, guiding students with responsibilities such as plan the outline – important points of the subject; create motivation, stimulate learners to read documents and attend the class; institutionalize knowledge; Control and help the learners to implement the assignments, projects and activities in the classroom.

Through the process of implementing the above-mentioned course, we also propose measures to improve the interaction on CBL with B-learning:

- The issues related to awareness should be linked to practical context to enhance the competence of the learner. Besides teaching with specific instructions to help learners towards competence, IL's perspective recommends embedding the teaching activities and the competency be achieved through the learning of students in the activities of social practices more interactive. Learners need to be put into practical problems. If the skills acquired in the non-practical circumstances and with the same assessment with the guidance of teachers available. This will create the "inert" competencies and the student will be very easy to forget and hard to do well in their careers.

- Strengthen self-evaluation, self-regulation and enhance self-awareness of learners.

- Assess study result comprehensively. The learning outcomes are the integration of knowledge, skills, attitudes and even their qualities. Assess for learning and assessment as learning.

- State the purpose of learning, the learning activities and unified evaluation criteria. Learning and assessment need to be collaborative between learners - teachers, learners - learners and learners - learning environment. The learning process is also a process students made progress together.

- Learning does not stop at knowing, understanding, but also towards applying, learning through action, enhancing authentic assessment.

5. CONCLUSION

In view of the IL and CBL, learners have to solve the practical problems associated with learning motivation. However, it should be noted that there are things that people are not interested in learning, has become important for their careers in the future. Moreover, although learning through interaction, in our opinion, the learning competency of each individual is still the most important.

Through the article, we have mentioned some characteristics of the interactive environment on the B-learning, analyzing the relationship between IL and CBL in B-learning. An interactive framework for CBL on the B-learning and the measures to improve the interaction in CBL with B-learning also given.

Due to the limitation of the paper, we will analyze more thoroughly about interactive frames and the above measures with the experimental results of using interactive framework and the measures, in another paper.

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