
A STUDY ON DESIGNING ONLINE LEARNING ACTIVITY

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Abstract

How to enhance the quality of online learning? The curriculum design is the most important part among all and the learning activity is the key to high quality delivery. In the meanwhile, the design of content and learning activities have to meet the needs of different target groups. The study is based on interviews of 105 e-Learning courses in consideration of online learning activity and current situation, etc. The purpose of the study is to design an online program with higher quality and it will be able to motivate the target groups' willingness to learning, for instance, what are their interests, how are they learning and ways they prefer to, etc. The study provides five kinds of online learning activities which fit for the learners and provide the methods and tools of designing.

Online learning achieves its objective by e-Learning courses. Online learning activities are the basic elements of e-Learning (Chao, 2012). The advantages and disadvantages of online learning are the key factors affecting the quality of the e-Learning.

The Distance-Teaching Academic (DTC) has been running for 20 years, but the quality of education has been questioned and its efficiency has not been proved as planned. The reasons for this are as follows:

- Online learning needs much more motivation and determination than that of normal learning (Illeris, 2007). Online learning also requires the individual learner for much more motivation to self-learning.
- Learners of the DTC have been unable to maintain high level of motivation and they have very poor self-learning skills.
- The majority of the courses rely on the resources of the DTC and usually provide learners with a variety of tools including literal texts, photographs, animation, videos, and etc. The learners are required to complete the study tasks but it is difficult to ensure that the study has been undertaken as expected.

How to design online learning activities to motivate the learners? This is the key point affecting the outcome of e-Learning. This essay will analyse the current situation in e-Learning in China and learners' motivation to undertake modern distance higher education in China.

It will attempt to design online learning activities, which could motivate the learners; outline the design concepts for online activities, and provide a framework for increasing the quality and efficiency of online learning.

The study of online learning activity

The concept of online learning activity

Online learning activity is designed by instructors on learning target which provide for learners (Wenge, 2016). Learning activity has its purpose that solves the question which can inspire the learners' curiosity (Tanner, 2007). In general, learning activity is the same as the other production activity which is belong to social practice activity. We need define it in a special meaning. Many scholars define it in narrow meaning in environment of learning activity and the target of learning activity. We can classify them on the characters of learning activity which include in-class learning activity, extracurricular learning activity, blended learning activity and online learning activity. Learning activities of different characters have difference in implement environment, event organization, interactivity, completion and restrictions.

Different scholars have different concept for learning activity. Above mentioned concepts emphasized the importance of online learning environment as well as the internet literacy to finish the target task.

“Online Learning Activity” is all the activities which are finished in the online environment. The characters as follows:

- clear learning targets;
- distinct learning task;
- assisted learning resources and routes for finished learning tasks;
- quality criterion of checking learning tasks finished;
- clear learning outcomes.

The present study of online learning activity

There are many studies of online learning activity at home and abroad. The articles of online learning activity mostly emerge after 2005. The studies of basic theory include Effective Teaching Theory, Cognitive Load Theory, Performance Technology and Model of Cognitive. Different theory studies lead to different kinds of learning activities.

Different scholars classified online learning activities, for instance, instruction interactivity (McDonald & Gibson,1998), stream of learning activity (Watkins, 2006), inscape of online learning (Kolas & Staupe, 2010), constructivism (Wang, Zhu, Chen, & Yan, 2009), motivation and inspiration (Bonk & Khoo, 2014).

The study of online learning activity shows that there are 4 key elements including learning task, procedure, rules of monitor and rules of evaluation (Kaicheng Yang, 2002). Ronghuai Huang (2007) raised seven inscapes which include learning needs, learning environment, mini learning activity, technology environment, learning support, restrictions and learning evaluation. Meril (2006) raised that sophisticated learning activity includes question centred, task sequence, instruction units analysed, instruction tragedy and instruction interactive. Nan Wang raised that learning activity includes tasks of specified outcomes, scene of learning activity happened, tutor supported for learning activity and evaluation of learning activity (Nan,

2009). Ting Li raised that learning activity includes targets of activity, object of activity, contents of activity, tragedy of activity, procedure of activity, learning evaluation and reflective of activity (Ting, 2012).

The study of activity also includes learner support service, evaluation, collaboration, etc. The study at abroad pays more attention to the satisfaction of learners and emphasize the importance of learning society and learning community. Scholars at abroad pay more attention to the effect of practice instead of theory. But whether home or abroad the study on online learning activity is far from sufficient. At present, what is the effect of online learning activity of modern distance higher education targeting at adults in service with continuing degree education in China? Whether the activities fit for learners? How to design the online learning activity which triggers learning?

Design of study

There are 68 DTCs in China. This article selects 16 DTCs from them which distribute in Northeast China, North China, Central China, East China, West south China, Northwest China, South China. Under consideration for the subjects and types of courses we select 37 majors which include 8 subjects (Economic, Law, Education, Literature, Technology, Medical, Management) and 105 courses. We also selected 184 learners which were interviewed and filled in the questionnaires in order to study and analyse that include the types of online learning activity, task style, interesting and concerning, motivation, etc. Online learning activity consists of tasks procedure. Motivation influences the tasks finished and attended, furthermore, influence the quality and effect of learning.

Findings of research

Learning strategy and learning activity analysis

In terms of online learning, the learning strategy is the method for learners' knowledge and capacity building. It matters the learners how to interact with learning resources, build their own knowledge system, so as to realize cognitive structure change. Learning strategy also affects learners' decision making in learning activities, leading to the autonomous and cooperative learning, promoting learners' active completion in meaning construction. The type of learning activity is highly correlated with learning strategies. The research is in the angle of the learners' learning strategy to study the classification of online learning activities. The current online course learning strategy mainly consists five elements, including self-study, listening, experience, inquiry, problem solving, and then there comes five basic types of online learning activities. Online learning activity is composed of a series of learning tasks. In the perspective of learning method of learners, the research has been done to focus on classification of online learning activities, 105 online courses have been analysed and summarized one by one.

Those online learning activities consist of different learning tasks, there are 11 kinds of learning tasks.

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All of the 105 courses include self-learning activity and lecture activity. Only 5 of them include experience online learning activity and 4 of them include exploration online learning activity, 11 of them include problem solving online learning activity.

Research combined several existing scales of activity type preferences, the learning motivation, self-learning ability, etc. which include seven dimensions of measurement.

Measurement reliability: Cronbach alpha coefficient is relatively general evaluation index of the reliability test, the measurement data calculation of Cronbach alpha coefficient as the chart shows, the scale coefficient is 0.9241, with a relatively high reliability, the reliability coefficient is above 0.6.

Each online learning activity includes different kinds of task which learners have different preference. Problem solving is the most favourite online learning activity which mean is 4.81. Secondly, the favourite one is experiencing and lecturing online learning activity which mean are 4.67 and 4.23.

Learning motivation analysing

We usually take practice for certainly targets. Learning means change, in some ways is persistent change. Adults characters changed from dependent style to independence, which learning and living experiences and the needs of personal development influence what they would learn and when to learn. Their learning interests and motivation also influence what they would learn, when to learn and how to learn.

Adults learning possesses heterogeneity. Learning habits and learning style vary from one to another. Adults conduct independent learning. Adults learn for what they need. Adults life experiences influence learning. Adults' social status adaptation triggers learning preparation. Adults learn for practice and problem-solving. When learner realize the learning content is useful and then he or she will pay more attention.

97.83% of learners talked about attending test in order to gain credits. 88.04% of learners talked about that learning activity should integrate with real life and work, they don't like learning too many theories, and the reason is not to know how to use. 95.33% of learners thought that internet connection speed and smooth of video would influence learners' interests. Low speed of connection would reduce learning motivation. Furthermore, 82.61% of learners don't like downloading plug-in during learning. 89.13% of learners thought that online learning activity should provide a clear learning path, they like finishing learning tasks under the instruction path.

The adults who attend distance higher education that needs academic certificate, in the same time, they also need good learning contents.

When being asked when they will learn with initiative. They talked about gaining credit and learning motivation on different perspectives.

- 61.96% of learners talked about changes in external environment.
- 89.13% of learners talked about the challenge of new position.
- 53.26% of learners talked about self-developing bottlenecks.
- 82.61% of learners talked about the needs of sustainable career development.
- 44.46% of learners talked about the needs of personal fulfilment.

The study found that the learners like problem-centre learning which is based on task and the target is solving problem and promote self-development. To emphasizing real work solving and real problem in real time and gain real outcomes so that he can enhance comprehensive quality and promote personal career-development.

Online learning activity design

Online learning activity design should systematically think about the learners of distance higher education. Either we should meet the needs of talent training, or we should meet for the real needs of the learners. We should guarantee the education quality from stimulating learners' motivation and holding the target of learning really happened. Moreover, how much content should one activity include? What about the relationship between activity and one course? These are all the problem which should be thought about when we design one course. The study promotes the rules of designing one course, design plan and methods.

The rules of design

Following the researching outcomes, we proposed the basic rules of designing online learning activity:

1. Online learning activity should have finer granularity in order to run in mobile terminals like cell phone, so that learner can learn anywhere and anyplace. Each activity should have a learning outcome so that learner may know what he gained after learning.
2. Learning path should be clear. We should provide specific requirement of learning and learning procedure.
3. Interactive design should be enhanced. We should create interactive environment which for learners who have same major and similar career to communicate and strengthen interactive.
4. To enhance the correlation between online learning activity and vocational working tasks. To break through the previous subjects and design the learning activity which is related with career and vocational technique. We should pay particular attention to the key problem and difficulty.
5. The content to learners should be combined with real work and life in order to stimulate the learners' motivation and give rise to an in-depth learning.

During the designing learning activity, we will study on the specific design plan and method according to the above rules.

Learning activity composition

One course usually is composed of a set of units. One learning unit is the unit of the learning activity.

In fact, online learning activity which the study promoted is the independent learning unit from one divided one course. One course is composed of several activities. One unit is equal to one learning activity. One learning activity is composed of several learning tasks. The task is the theme or specific affairs which learner should finished in the learning activity. Online learning activity is the procedure of tasks.

Online learning activity present elements

By the way of presenting to learners of course, online learning activity would include the task, learning style and evaluation.

In each learning activity learners should utilize the content following the tasks and finish the learning activity according to the procedure of tasks. Learners should finish the tasks according to the procedure of tasks. Learning tasks correspond to simulation operating procedure, the online learning system would record the learning procedure and learning outcomes automatically. Furthermore, online learning activity design is restricted to the function of learning platform.

Online learning activity design

We should pay much more attention to the problem-solving learning activity in order that online learning activity should be the perfect combination of structured knowledge and unstructured knowledge.

There are many scholars studied on the process of problem solving. Dewey proposed five stages which include problem recognizing, clarifying problem, proposing assumption, deducing the meaning of assumption, verifying assumption. Ausubel and Robinson proposed four stages which include presenting the problem environment, clarifying the target and known conditions, finish targets, verifying. Sternberg proposed circle of problem solving. He thought when we facing a problem that we need go through seven stages.

Domestic scholars proposed procedure of problem solving which include a series of stages that correlate with each other. The stages are finding problem, analysing problem, proposing assumption and verifying assumption.

We found the tasks of problem solving include clarifying problem, analysing problem, proposing problem solving plan, solving problem according to plan and verifying problem solving.

Some problems in online learning are proposed clarifying. So they would not be recognized and assessing problem solving is finished in evaluation of learning activity. Thus the main tasks of

problem solving include identifying y problem(elective), analysing problem, proposing solution, solving problem.

Some instructors thought the analysed tasks are the core tasks. The problem of the learning activity is clarified which is for learners finishing. The first task for learners to finish is analysing. And then learners solve the problem by themselves or group. If they meet difficulty that instructors or mates would support him. At last, learners submit assignments, reflect and exchange. So the procedure of finishing activity is identifying problem, analysing problem, propose solution plan and solving problem.

Evaluation should include participation of online discussion, points proposed in discussion and performance of assignments according to the requirements of finishing tasks. We formulated the designing plan for problem solving activity (Table 1).

Table 1: The design plan of problem solving

Types	Targets	Organizing	Rules of evaluation
Problem solving	Application	1. Clarifying problem;	Participation of online discussion
	Analysing	2. Analysing problem;	
	Evaluation	3. Propose plan for problem solving;	Points of discussion
		4. Solving problem.	Performance of assignment

The learning platform should have the following functions so that learners can finish the learning activity in convenience.

Conclusion

People-oriented designing thoughts are effective methods. The study proposed designing plan and tools for 5 kinds of online learning activities in modern higher education. The paper focus on the designing processes and methods of two kinds of online learning activities (experiencing and problem-solving online learning activities) which are largely needed by learners without a rich description in current courses. Furthermore, the methods of study proposed fit not only modern distance higher education but also other kinds of education for reference, which will be able to enrich the forms of online activities, be more suitable for learners' needs as well as ensure the quality of all kinds of online learning. Online learning activity depends on the function of learning platform. The structure and the function of the platform would pose a great impact on the online learning activity design.

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