The Blended Class Design Based on the Analysis of Learning Needs

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Abstract. Learning in traditional ways has brought teachers and students lots of pressure in the new environment of "VUCA". It is urgent to reform the learning from single mode to multiple modes. With its typical characteristics, Blended Learning has become a useful guideline that can be followed in class design in the new era. Because in this way, different learning patterns can be used so that each of them could be drawn on the strong points of others to make up for their own weak points. Moreover, they can not only make best use of their own advantages but also avoid their own disadvantages. As is known to all, different learners have kinds of learning motivations with various learning needs at different time, which correspond to different learning objectives. So the class design should focus on the learning needs after analyzing the learners' motivation. All of these are the prerequisite for class design, development and implementation.

Introduction

The CEO of Procer & Gamble, Robert McDonald has used VUCA to describe the new business world pattern. VUCA is short for volatile, uncertain, complex, ambiguous, which means lots of factors that related to the achievements are always unsteady, changeable, variable and even the results are unclear and unbelievable afterwards. As time goes by, these situations have become normal state. It also puts forward new requirements to current education. That's because under such a volatile and uncertain setting, the content of learning should be iterative and updated without stopping. Meanwhile complex and ambiguous cases need learners to be able to refine information to some extent. So that traditional ways in learning are hard enough to reach these goals, and it's necessary to reform the learning from single mode to multiple modes.

What is Blended Learning?

The definitions to Blended Learning are not the same both at home and abroad. Wikipedia says, "Blended learning is a formal education program that involves combining Internet and digital media with traditional classroom methods that require the physical presence of both a teacher and students, with some element of student control over time, place, path, or pace".

In 2002, NIIT in India published "Blended Learning White Paper" on the website of American Society for training and development. It referred that Blended Learning should include face-to-face learning, real-time E-learning and paced learning.

In 2003, Kaye Thome who is a British academic proposed that Blended Learning is growing up from the E-Learning. It combines E-learning and other more traditional learning methods.

The professor in Beijing Normal University, He Kekang considered Blended Learning as to be combining the advantages of traditional learning and on-line learning, that is to say, teachers should guide, inspire, and monitor the process of the learning, and also students should be positive, creative and have initiative.

Li Jiahou who is also a professor but in Shanghai Normal University pointed out Blended Learning should be a kind of fusion learning, in other words, it would achieve the teaching goals through optimizing learning essentials in choices and combinations. Meantime, he emphasized both teachers and students should apply various learning methods, patterns, strategies, media and techniques well and adequately on the basis of learning need.
Qiu Shaoliang, the creator of Learning organization website of China mentioned the essential of Blended Learning should revolve around learners. He referred according to the learners' need, motivations, characteristics and desire, make use of different teaching methods, patterns and media, design and implement the activities systematically in learning, thus improve the learning effective to the utmost.

These academics have different particular emphasis in details. However, the kernel of the Blended Learning is the same. In a word, that is combining traditional and computer-mediated activities. Both of these two things could be drawn on the strong points of the other one to make up for their own weak points, so that learning effect could be the best.

**What is ADDIE**

In Wikipedia, the ADDIE model is referred as a framework that lists generic processes that instructional designers and training developers use. It represents a descriptive guideline for building effective training and performance support tools in five phases. They are analysis, design, development, implementation, evaluation. The details of them are as follows:

The *analysis* clarifies the instructional problems and objectives, and identifies the learning environment and learner's existing knowledge and skills. In this phase, data from professional content experts, from focus group interview, from end-users in a meeting, telephone, e-mail and other forms, from interview management, from media and observation would be collected. After analysis, the real requirements could be figured out.

The *design* phase deals with learning objectives, assessment instruments, exercises, content, subject matter analysis, lesson planning and media selection. The design phase should be systematic and specific. Systematic means a logical, orderly method of identifying, developing and evaluating a set of planned strategies targeted for attaining the project's goals. Specific means each element of the instructional design plan must be executed with attention to details.

Instructional designers and developers create and assemble content assets are blueprinted in the design phase. In *development* phase, the designers create storyboards and graphics. If e-learning is involved, programmers develop or integrate technologies. Testers debug materials and procedures. The project is reviewed and revised according to feedback.

The *implementation* phase develops procedures for training facilitators and learners. Training facilitators cover the course curriculum, learning outcomes, method of delivery, and testing procedures. Preparation for learners includes training them on new tools (software or hardware) and student registration. Implementation includes evaluation of the design.

The *evaluation* phase consists of two aspects: formative and summative. Formative evaluation is present in each stage of the ADDIE process, while summative evaluation is conducted on finished instructional programs or products. What is formative evaluation? It is a series of formal and informal evaluation procedures conducted by the "teachers" during the learning process in order to modify teaching and learning activities to improve learners' attainment. It typically involves qualitative feedback (rather than scores) for both learner and "teacher" that focus on the details of content and performance. While summative evaluation is commonly contrasted with it, which seeks to monitor educational outcomes, often for purposes of external accountability.

All of these five phases could be summed up in the Figure 1.
There are also other versions for ADDIE, however the kernel of it is not changed. Some institutions have modified the ADDIE model for their needs. One version of note is the United States Navy version. It is called PADDIE+M.

The P phase is the planning phase. In this phase, the project goals, project objectives, budget, and schedules are developed. The M phase is the maintenance phase. This phase involves the life cycle maintenance of the training product using continuous improvement methods.

This model is gaining acceptance in the United States government as a more complete model of ADDIE. Some organizations have adopted the PADDIE model without the M phase. Pavlis Korres (2010), in her instructional model (ESG Framework), has proposed an expanded version of ADDIE, named ADDIE+M, were M=Maintenance of the Learning Community Network after the end of a course. The Maintenance of the Learning Community Network is a modern educational process which supports the continuous educational development of its members, by using social media and web tools.

In fact in ADDIE model, the plan phase has been involved in design phase. As mentioned above, in design phase, there are such kinds of things as learning objectives, assessment instruments lesson planning and so on. Every project needs some cost to operate, from design to maintain, so that most modern institutes have found budget planning should be paid more attention to, and planning needs to be picked out as an independent phase.

The PADDIEM could be summed up as the Figure 2.
Whether this is an utmost model or not is depended how to manage the process of the project in the future.

**Design the Blended Class after Analyzing of Just Need Time**

Bob Mosher and Conrad Gotterfredson offered a model, which is called Five Just Need Time when to learn. How to use each of them to design a blended class is going to be analyzed as following:

**First**, when people need to learn to obtain new things. At this time, learner needs to master new information or develop new skills. The most important thing they focus on is "new". Also, what is new? Undoubtedly, it is relative to different learners. So when designing class, the content should be the concentrated more. After understanding what learners have known a lot, put the new knowledge and skills into the learning process completely and properly. As to the learning strategy, in order to make new information much more effective, the competitive and cooperative ways could be given a higher priority. So getting lots of information online by learners themselves is a preferential way, and when offline, group learning, brain storming and other interaction learning ways could be used as long as there is a need.

**Second**, when people need to learn to respond to changes. When something changes, learners need to change their own patterns of behavior and cognition. At this moment, learners are paying close attention to "change". We have to admit that in this situation, learners would have some learning conflicts from what they got before and what they have to change later. So how to make changes transfer to learner under silence is the key point. At the end, the class should be evaluated by whether the learners are able to respond changes or not. Above all, the evaluation on whether the learners have mastered how to do with those changes is the most important thing.

**Third**, when people need to learn for practice. When learners have to apply what they have learned to complete some tasks, they would have strong demand in learning. This is a time when the learners' motivation is to use and apply. So when designing class, some advanced information techniques, such as VR, AR, etc. should be put into use, moreover, construct the context and environment to make sure learners could enhance their practice a lot is the stress emphasis.

**Fourth**, when people need to learn to develop skills. Sometimes in order to some particular tasks, learners have an urgent need to understand the specific topics related to the content, they need to improve their level of skills. However the depth and width on skills differs from man to man, under these circumstances, "informal online independent learning" could be given first place, and other ways could be a supplementary.
Fifth, when people need to learn to solve problems. If learners want some supportive tools to help them solve the problem, build some platforms for them to make them communicate with each other is necessary. In addition, as to learning strategy, it could take the on-line group learning as the principal thing. So that between the learners or even learners and other people, they could mutual help to make up what the other lacks until they solve the problem finally.

In conclusion, each of the learning needs time should be considered as an opportunity to learn, which could be used to improve learners' performance and establish their advantages. For learners' purpose, different learning time in need is corresponding to different learning goal. So when designing class, people need to dig out what they want in deed, and put them close together with developing, implementing and evaluating.

Summary

In summary, in such "VUCA" era when information technology grows rapidly, learners should learn faster than or at least equal to the changes that occur in the environment, they could survive. As a class designer or developer, only after analyzing the real need of learners, can they use proper media and strategies to design suitable context, adopt best content, and comprehensively use online or offline ways to make learning happen. And then, learners can get maximum learning effect and assist them have value creation.

References