

## Research on network personalized training model based on diagnostic of instructional design

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**Abstract:** With the development of information technology, the network training becomes an important way to promote teachers' professional development. However, the existing network trainings depart from the work situation and lack of aim, such as "national training program for primary and secondary school teachers" and "educational technology training" etc. It is difficult to meet the individual needs of teachers. The aim of the study is to construct network personalized training mode based on diagnostic of instructional design, which can provide problem-oriented personalized training and can be combined with teachers' work situation. The authors carried out a design-based research. And the outcome was a network personalized training mode consisting of three stages, personalized diagnosis, personalized activity recommendations and personalized evaluation. The authors hope it can provide suggestions to carry out the network personalized training for teachers in primary and secondary schools.

**Keywords:** *personalized training, network training, teacher training model, diagnostic of instructional design*

## **Background**

With the rapid development of information technology, computer and network has increasingly become the tool of people's life, work, and study. At the same time it is widely used in the field of education, accelerating the development of education informatization. In the context of information technology in education, the technical tool to support teacher development is increasingly important. But teachers have different development stage, the teachers of each stage has different psychological ability characteristics, research ability, teaching ability, which have different development needs. So teachers need personalized training and guidance.

Educational technology training for teacher in K12 is one of the regular work on "Theoretical and Practical Innovative Experimental Research on Leaping Development of Fundamental Education" project, which the authors participate in. Training for primary and secondary teachers, mainly adopted the way of centralized training with a combination of online training, is facing problems. First, it is difficult to concentrate teachers to participate face to face training because of pressure in work and study. Second, teachers have learning loneliness in the online training because it lacks the sustained attention. Third, it is difficult to use training content to migrate teaching practice because they are from the teachers' work situation. Fourth, it is difficult to meet the individual needs because teacher has different technical capabilities and training needs.

## **Literature Overview**

There are a lot of researches about teacher training in China. To helping with the research about teacher training we analysis the literature as follows.

### **Previous research**

In the practice field of teachers' professional development, "national training program for primary and secondary school teachers" has been attended by many teachers, which takes short-term concentrated training, replacement off-job training and large-scale online training. During 2010, nearly one million teachers participated in the "national training program" of Demonstration projects and Midwest distance training project (Kangli, Feng Yongliang & Gaoying,2011). But because of the large number of teachers, it is difficult to provide personalized training and guidance to meet each teacher's demand. Intel teach to the future which uses the waterfall model has formed a rapid diffusion of training system (Zhu Zhiting & Li Jiahou, 2003). But the project adopting classroom training methods is lack in flexibility of time and space and its training effect reduced step by step. "Information technology and application of remote training" (IT&AT) project dominated by self-study is lack of personalized learning resources application and close contact with the practice.

In the research field of teachers' professional development, teacher training model relying on technology is divided into distance/online learning model, the school-based training model, cooperative learning model by Qindan (Qindan &Wu Lizhi, 2013). Many researchers put forward distinctive teacher training models from different perspectives, such as Gu Xiaoqing built up teacher's professional development model of action learning circle based on teacher's practical knowledge(Gu Xiaoqing, 2005); Jin Yanhong proposed hierarchical hybrid network-based training model in the analysis of existing training model (Jin Yanhong & Guo Shaoqing, 2010); Wei Shunping built a working process-oriented teacher training model under the network environment considering teachers' work practices (Wei Shunping & Sun Wanfu,2011) . These training models are presented from a technical perspective, which can use the advantages of distance education, take into account the stages of teacher development and design effective training programs, to migrate training content utilization in the practice. But they can't meet different needs for each other.

### **The concept of personalized training**

Personalization refers to non-popular. Personalized training is personalized education theory applied in the area of training. Professor Jiao JianLi considered one of the most promising education technologies from 2013 to 2014 is Specialized training. Specialized training is not unified training, is based problem-solving personalized training for area in the workplace, and teacher training(Jiao Jianli, 2013). Personalized training is defined as the diagnosis teachers' teaching problems exposed in practice, and then needs analysis, design and recommendation targeted online training activities to solve the practical problems of teaching and promoting professional development of teachers. Network personalized training based on diagnostic of instructional design relying on the study refers to diagnosis instruction design plan which teacher submit to identify the problem, then design / recommendations training activities according to the specific issues to help teachers solve the issues of instructional design.

## Methodology

### Research Question

How to make full use of network training advantages, combined with teachers' work practices, to provide teachers with individualized educational technology training? It includes four research contents: (1) personalized training model based on diagnostic of instructional design, (2) The diagnosis framework of personalized training, (3) Personalized training activities design and recommend mechanism, (4) Personalized training evaluation design

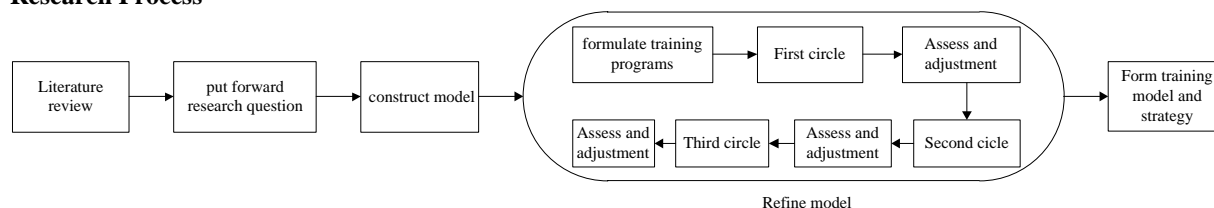
### Design-based research

The research is conducted as a DBR process, which in this study is understood as developing, testing, investigating, and refining (1) the learning environment designs, such as the technological tools, curriculum, learning activities, software, school organizations, and school community collaboration, and (2) the theoretical constructs, such as the pedagogical models that support learning and illustrate and predict how learning occurs (Barab & Squire, 2004). The aim of DBR in this study is to (1)construct and refine network personalized training mode based on diagnostic of instructional design, (2)design and development personalized training activities, (3) generate the principles of personalized training.

### Participants

Authors selected ZhuoLu experimental area in Hebei Province, China implementing personalized training. There are ten participants that come from ten different schools through the principle of convenience sampling. They are all Chinese teachers in Grade One. They were involved in "Theoretical and Practical Innovative Experimental Research on Leaping Development of Fundamental Education" project in August 2012, so they participated in experiential training and understood the development the basic concept and mode of the subject.

### Research Process



### Expected Results

- (1) Network personalized training model based on diagnostic of instructional design
- (2) Personalized training programs for the "Theoretical and Practical Innovative Experimental Research on Leaping Development of Fundamental Education" project
- (3) Personalized training strategies

### Primary Literature Reference

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