

A Study on the Development of University English Teachers' Professional Quality Based on Virtual Learning Community

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ABSTRACT

The model of university English teaching has been changed significantly with the development of the computers and Internet, which requires a higher professional quality for university English teachers. The development of university English teachers' professional quality in a network environment is the fundamental factor that guarantees the high efficiency of university English teaching. Based on the theories of Constructivism Learning Theory and Group Dynamics, a virtual learning community was established and an experimental study was carried out. The results showed that the Virtual Learning Community could improve autonomous and collaborative learning of the university English teachers, with their individual intelligence developed and their collective intelligence converged. Therefore, Virtual Learning Community is an effective way for the development of university English teachers' professional quality.

Key words: University English teacher; Professional quality; Virtual learning community

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INTRODUCTION

With the development of science and technology, the university English teaching models have been changed enormously which is a great challenge for the university English teachers. This results in a great academic debate on the English teacher professional quality. What makes an effective university English teacher? What is the connotation of university English teacher professional quality? Is there any difference in University English teacher professional quality between in the network environment and in the traditional environment? Which is the effective way to improve university English teachers' professional quality in the network environment? All these basic issues are to be solved. Zhang (2007) pointed out that the teachers' professional skills and abilities have been significantly changed in the network environment which requires the teachers to adjust themselves to the new environment. English teachers hold the key to improving ELT efficiency in TEFL context (Zhou, 2010). Therefore, many academic researchers have focused on the teacher education since the early 1900s. Most of the researches put great emphasis on teacher quality, teacher professionalism and foreign language learning ability (Shulman, 1986; Dudley-Marling, 2006; Jia, 2006). In China, academic research on English teacher education occurred at the beginning of 21st century (Dai & Zhang, 2004; Zhou, 2005; Zhang, 2005; Wu, 2005; Liu, 2005; Jia, 2005, 2006; Peng & Ye, 2006). The Chinese researchers put great emphasis on English teachers' professional morality and sentiment as well as the cognitive factors (Wu, 2005, 2008; Shi & Zhou 2009). However the researches seldom focus on the university English teacher quality in the network environment. Therefore, the connotation of the English teacher Professional quality and the effective way to improve their quality in the network environment are still unknown, which is the

prominent factor to improve university English education. This paper will focus on the point.

1. LITERATURE REVIEW

1.1 Studies on the Connotation of Teacher Professional Quality

In western literature, Shulman (1986, 1987) identifies the connotation of teachers' professional quality as the development of knowledge and skills, and knowledge refers to knowledge on content, pedagogy, learners and their characteristics, educational contexts and ends, purposes and values and their philosophical and historical grounds. Freeman (1989), and Tedick and Walker (1995) state that the education of EFL teachers is quite different, which is focused on theoretical pedagogical knowledge and on English skills. In China, there are different statements on the connotation of university English teachers' professional quality. Li (2003) contents that English teacher quality includes the effective English skills, teaching methods, teaching attitudes and above all professional dedication is crucial to all the elements. Chen (2005) argues that university English teachers' professional quality is a new concept in globally communicative language teaching, which refers to solid foundation on professional and cultural literacy, good morals and morale, and emotional literacy. Shi and Zhou (2009) point out that retired effective university English teachers' professional quality consists of "teacher ethics, self-development and professional competence, and teacher ethics and teacher affect are most fundamental" (p.26) of all. Wu (2005) summaries the English teacher quality as "English language pedagogical content competence, view of the foreign language teaching profession and professional ethics, view of foreign language teaching and learning and view of language teacher learning and development" (p.199). With the development of computer and internet, some researchers have started to pay attention to the university English teachers' professional quality in online environment. Wang (2010) summarizes university teachers' professional quality as being familiar with foreign language teaching theory (such as educational theory, linguistics theory and testing theory), having good command of English language and computer usage, and appropriate knowledge structure as well. Dai and Wang (2011) propose that the connotation of foreign language teacher professional quality in information environment contains information and communication technology, network meta-evaluation and network education narrative research. Zhang (2007) defines the ability of information and communication technology as the ability of using the media and information, teaching practice, evaluation and research.

Based on the above researches, the connotation of English teachers' professional quality in network

environment can be summarized as follows: English teacher ethics affect and awareness, ability of manipulating information tools, resource management, teaching design, self-development and innovation. The connotation links the research on university English teachers' professional quality in the traditional environment with the research on university English teachers' professional quality in the network environment, which includes the English teachers' professional ethics and affect that most Chinese researchers put in a prominent position in their research with local concerns. Furthermore, the connotation also takes the theory, practice and the specialty of network environment into consideration. Therefore, it can be used to measure the university English teacher professional quality in the network environment.

1.2 Teachers' Online Professional Development

Owing to its disconnection from practice, many researches in the traditional environment failed in enhancing teachers' professional learning and their competencies (Kabilan, 2011). Thus, some of them turned to the impact of online teacher development program which can contribute to the teachers' identity development (Coughlin & Kajder, 2009; Arnold & Ducate, 2006).

Teachers' online professional development refers to any activities, programs, opportunities or experiences undertaken via computer-mediated communication and related internet applications by teachers resulting in enhancement of knowledge, skills, motivation, and understanding of individuals or groups in learning contexts (Kabilan, 2011). Activities of online professional development can be collaboration, discussion, reading professional journals and books, writing journals, doing action research, posting messages on bulletin boards (Ibid.), and etc..

Kabilan (2005) categorized the competencies gained by teachers: teacher motivation, skills, knowledge and ideas, self-directed learning, interactive competence, and computer technology awareness and skills based on literature analysis and he made the conclusion that online activities like interactions and collaborations assisted teachers in gaining valuable competences to a certain extent. However, the activities that are not related to teachers' prior experience of technology or telecommunications (Levin & Thurston, 1996) and that only involve a few individuals instead of all and that lack open and genuine debate and discussion often lead to teachers' reluctance (Owen, 2000). According to Ellis and Renata (2000), meaningful and useful interactions are achieved by ongoing and regular maintenance, updating the learning materials and resources, providing input and feedback and developing the collaborative relationship.

Many online networks have been built to enhance English language teachers' development since the mid-1990s, such as *The Teachers of English Education Nexus* (TeleNex) developed by TELEC (Teachers of English

Language Education Center), the University of Hong Kong (Sengupta & Nicholson, 1996), the networks for supporting English language teachers in Japan (Schmitt & Christianson, 1998) and in Egypt. The findings show that the teachers' awareness of the importance of technology in education can lead to positive results of the programs (England, 2007). However, the programs are seldom for university English teachers and the establishment of virtual learning community is quite necessary to ensure the effectiveness of teachers' development.

1.3 Studies on Visual Learning Community

Learning community refers to "a limited number of people who share common goals and a common culture" (Johnson & Johnson 1999, cited in Hrastinski, 2009, p.80). Rovai (2000) defined classroom community with four components that are spiritual trust, interaction and learning, and quantity and quality of interaction are beneficial for developing a sense of community. An online environment has the positive outcomes related to a sense of community (e.g., Fleming, Hiple, & Du, 2002; Poole, 2000; Rovai, 2000).

Online learning community has become more and more popular in the promotion of teacher development (Schlager & Fusco, 2004; Zhao & Rop, 2001). The result of the application of the teacher professional programs shows that online learning community can reduce teacher isolation, facilitate information and experience sharing, promote a new practice, develop the sense of community and support the reflection on teaching (Najafi & Clarke, 2008). In China, some online communities have also been set up (such as iResearch) to promote university English teachers' academic development (<http://www.iresearch.ac.cn/>). The online English teacher communities are all based on online communication and interaction, serving a variety of English teachers' interests and needs. However, the outcome is far from the expectation. In South Korea and China, the participated teachers proposed their needs, such as the effective assessment, the varieties of learning materials and collaboration between experts and teachers (Jung, 2001; Zhang & Hung, 2007; Wang, Yang, & Ye 2004; Chen & Qian, 2011).

Furthermore, online environment is somewhat different from the virtual learning community which focuses more on learning, learning outcome, learning process and the exchange of ideas (Hu & Li, 2012). Thus Gan (2005) defines virtual learning community as a community constituted by the people who have common interests and learning aims based on the internet. They use various technological and informational tools to communicate with each other by interaction, discussion and collaboration and to share the ideas, resources, knowledge, and experiences to promote their knowledge construction and individual intelligence, with self-development attained. In this sense, the term virtual learning community is more appropriate for this paper.

Schwier (2001, 2007) studied the elements of virtual learning community from the sociological perspective and points out that the elements of virtual learning community consists of history, identity, interdependence, learning, diversity, autonomy, participation, trust, development path, technology, social etiquette and reflection. Palloff and Pratt (2007) expanded and reorganized the elements of virtual learning community and contents that virtual learning community includes three key elements which are humans, purposes, and norms and process. The three elements are paralleled with each other and work together for the support of the environment, which is in favor of collaborative learning, social construction of meaning, new learning mode and reflection.

Gan (2005) lists five reasons for teachers participating in the virtual learning community which are as follows:

Virtual learning community is conducive to teachers' lifelong learning; it is beneficial for teachers to acquire tacit knowledge; it can integrate various ways into teacher professional development; it can take full advantage of online learning and virtual community, focusing on learning process as well as learning outcome, and it offers teachers a strong sense of identity and community cohesion, which needs the creation of real or real-like social environment.

1.4 Identifying the Gaps in Previous Studies

Lack of systematic research on university English teachers' professional development based on learning community is a significant gap in the current literature. Previous studies seldom provide in-depth accounts of the participated teachers' awareness of being community numbers and their professional development. Furthermore, technological design of online learning community also calls for further investigation. Blackboard platform is an individual customization platform and has multiple functions, such as synchronous communication, asynchronous communication, online testing resource management and survey tracking. Compared with many other platforms, Blackboard platform has its own advantages, which has friendly user interface, powerful online interaction, and flexible user permission settings, and is easy to manage and operate. Therefore, Blackboard can be used to facilitate university English teachers' professional development.

1.5 Theory-Guided Research

To ensure the objectives of the research, and to provide the teachers with opportunities for active participation, collaboration, and social interaction, the current research is based on constructivism and the theory of group dynamics.

1.5.1 Constructivism

Prior research has argued that the roots of community are constructivism (Johnson, 2001). According to Piaget (1905), learning occurs in learners' interaction and experiences which are closely linked with a specific

context. Consequently, individuals' developing and understanding knowledge are the process of forming and refining concepts. Constructivism contends that unique and multidimensional characteristics are very important in the course of learning (Hagstrom & Wertsch, 2004). Furthermore, Squires (1999) shows that constructivism is concentrated in learner' control and learners making decisions, which suit their own needs.

Constructivism is a theory of learning as well as a theory of education. It is a learner-centered approach. Constructivism plays an important role in the construction of online learning community (Zhu & Zhong, 2003). Dalsgaard (2006) also argues that a constructivist can be used in online learning with the aid of social software. The development of online tool should provide variety of learning environment under which learners can communicate with others, participate in activities, make their own decisions and track discussions to meet their own learning needs (Thoms, 2011).

1.5.2 The Theory of Group Dynamics

Group Dynamics, was firstly put forward by Lewin (1939). The fundamentalism of group dynamics is to seek and interpret the dynamics of group behavior and individual behavior from the perspective of social environment. According to the theory of group dynamics, the prominent condition of changing a person is to change the community, that is, the development of a group determines the improvement of the individuals. The modern information communication technology and internet make it possible to promote teachers' professional development in a group or in a community (Wang & Zhou 2010).

Smith (1967) states that a group at least includes more than two members and the members are cooperative and interdependent to fulfill a task. Group dynamics mainly focus on the following aspects: group development, group cohesion, group effectiveness and group norms (Shen, 1996).

Group development is dynamic, and most of the groups are developing in ongoing process and have their own rules.

Group cohesion can attract the other members in the group. And the power strength has different effects on the members. If the power is low, members will feel nervous, anxious and insecure while in the strong power, members will be full of confidence and security. Similarity between the members, goal of the group, attraction and communication may influence the group power.

Group effectiveness is used to refer to the effectiveness of achieving the goals and the values of the group. Group effectiveness is determined by effective group construction, effective organizing environment and effective group leader. Group leaders play a crucial role in the group development.

Group norms are quite necessary in the group development, and interactional behavior is frequent in the group development.

Therefore, when virtual learning community is created, all the factors should be considered.

2. CONCEPTUAL FRAMEWORK

A conceptual framework is proposed to identify the mechanisms influencing the English teacher professional development.

2.1 Input System

2.1.1 Ability Orientation and Individual Differences

In the framework, the input system covers the time that teachers spent on the task, and teachers' characteristics analysis in the environment. In the complicated and interactional context, the factors that have impact on the teachers' learning should be taken into consideration, such as learning style, affect, gender, prior experience, the ability of self-monitoring, the ability of self-reflection and self-assessment, etc..

2.1.2 Thinking and Cultural Habit

Meta-values are reflected in cultural differences and cultural sensitivity while the interactional environment of virtual learning community is influenced by meta-values. The culture of virtual learning community is designed from the perspective of "collectivism-constructivism" rather than the traditional perspective "collectivism-individualism" which is not suitable for mutual cooperation and collaboration. The virtual learning community aims to facilitate teachers' knowledge construction and teachers' mutual development and the change of culture is the key to achieving the goals.

2.1.3 Motivation

Motivation can be divided into intrinsic motivation and extrinsic motivation. In virtual learning community, the transmission media and friendly human machine interface can activate learners' motivation. Furthermore, teachers as learners can monitor their learning process and choose their learning content based on their learning needs, which are beneficial to enhance their intrinsic motivation.

2.2 Process System

This system are realized by carefully designed teachers' roles, experts' roles and administrators' roles.

2.2.1 The Design of the Teachers' Roles

Teachers firstly have to register in the platform to acquire their qualification. Afterwards they can go to the learning modules, such as learning module, project module, paper module, and problem-solving module. Project module is achieved through online learning, cooperative learning, collaborative learning, and topical study activities through which teachers can obtain tacit knowledge. Problem-solving module aims to make teachers' tacit knowledge explicit by engaging the teachers in the activities of collecting, organizing and analyzing the scenarios for the problems. The

paper module encourages teachers to write their own teaching narratives to transfer the tacit knowledge to explicit knowledge. In the project module, teachers cannot access to the cooperative learning until they have finished up the self-assessment activities. The choice of projects is determined by the negotiation between the experts and the group members. The assessment of the project is firstly made by peers and afterwards feedback is given by experts. When teachers accomplish the self-assessment and self-reflection, they can go up to the next project. The whole process is crucial for teachers to foster their meta-cognition ability.

2.2.2 The Design of the Experts' Roles

Experts' roles include six modules which are user administration, content administration, group administration, project-based administration, file management, and template management. Project-based management is the key of the experts' roles. Experts provide guardians for the teachers by assisting and managing the learning activities, monitoring the learning process and evaluating the learning product. Furthermore, experts are responsible for providing the latest learning information, the research frontier, setting the challenging tasks, answering the teachers' questions and giving feedback to the teachers.

2.2.3 The Design of the Administrators' Roles

Administrators' roles are designed from the perspective of administrative rights which cover the design of the website design, administrators' management, expert management and data updating.

2.3 Output System

The framework is used to measure the effectiveness of the program, which covers teachers overall development and satisfaction expressed by the teachers and the suggestions made by the teachers. Teachers' professional development is operationalized using indicators which are teachers' awareness, ability of manipulating information tools, access to and utilization of resources, knowledge management, teaching design, self-reflection, self-development and innovation. Whereas teachers' satisfaction and suggestions are translated in the evaluation of the effectiveness of the program, experts' support and the platform itself.

3. RESEARCH METHODOLOGY

A case experiment method was chosen to test the effectiveness of the framework because the case experiment method echoed with the aim of understanding complicated social phenomena of teachers' professional development.

3.1 Participants

The study was carried out through an academic year, 32 weeks. Purposive sampling were adopted in which age,

gender, academic title and the developmental stages were taken into consideration to avoid a single point of view.

The level of teachers' professional quality in network environment was also used as a selection criterion. Participants with different levels may reflect the effectiveness of the virtual learning community. Based on the above criteria, 44 universities English teachers were chosen as the Experimental Group (EG) and the Control Group (CG). The results of pre-survey showed that there were no significant differences between the experimental group and the control group. Specific information on the participants was as follows:

The experimental group and the control group in this study were EFL teachers in an ordinary university in the East of China, each group with 9 males and 13 females. They varied in their teaching experience and different professional titles. 1 of them had been teaching for over 20 years, 6 for between 16 to 20 years, 5 for between 11 and 15 years, 7 for between 11 and 15 years, 3 for between 1 and 5 years in each group. And 1 of them was teaching assistant, 11 lecturers, 8 associate professors and 1 professor in each group.

3.2 Research Questions

The year-long experiment aimed to explore the following research questions:

- a) Does the experiment has an impact on the teachers' development?
- b) Are the learning content and learning methods effective for the English teachers' development?
- c) What are the teachers' attitudes towards the experiment?
- d) What are teachers' suggestions for the future study?

3.3 The Learning Materials

The objective of the online learning community was to provide the teachers with supportive environment or development platform, in which they were encouraged to communicate with each other and collaborate with each other so that their professional quality could be promoted. Therefore the materials were chosen based on the teachers' learning needs, their prior knowledge and experiences. During the academic year, the learning materials consisted of three themes occurring every week which were promotion of teachers' beliefs about teaching; enriching teachers' professional knowledge and enhancing teachers' professional abilities. The orientation of the virtual learning community was given in the first week of the program. Teachers learned the materials, communicated with the other teachers, kept journals to reflect their own teaching experiences and their affect, consulted with the experts and finished up their own tasks. The specific learning content was as follows:

Awareness promotion: The necessity of promoting university English teachers' professional development; some cases about effective teachers' developmental

process; and the interpretation of university English teachers development in network environment.

Enriching knowledge: Including technology and network tools and their application; resources and management; and teaching design.

Enhancing competences: Including classroom observation; the literacy of effective English teachers; teaching evaluation in the network environment; teachers' roles in the classroom; academic research design and application; effective teaching in the network environment; functions and exploration of teachers' learning community.

Tasks were designed to connect the theory and practice which required teachers to learn the materials, reflected their teaching experiences and interacted with other teachers and made their own decision. All the tasks were available to be shared with others so that the teachers could exchange comments and learn from each other.

3.4 The Procedures

The learning approach was learner-centered and expert-guided as a result of the merging among research action, learning by doing, community based, case-based and collaborative learning community with carefully designed tasks. The teachers were assigned to tasks and learned the basic modules, interacted with other members, and reflected their own teaching experiences and they were encouraged to accomplish their tasks based on their learning needs.

Accordingly, the experiment was organized in three phases:

a) Online learning community creation: A 4-week period of orientations, administrators training, teachers warming-up activities to guarantee the smooth flow of the experiment.

b) Tasks-assignment: A 16-week period spent in the collaborative learning, during which teachers cooperated with each other and collaborated with the researchers to promote their professional quality.

c) Reflection and application: A 12-week period spent by the teachers to reflect themselves, propose their research, design their teaching plans, to write their own narrative stories and set their learning goals for the near future.

3.5 Data Collection

The instruments for data collection in this study included: participant observation, questionnaires, interview and teachers' written documents. The researchers took part in the whole program so that they could learn about teachers' expectation, interests and needs. Besides they could also anticipate the problems and difficulties in the program so that first-hand information could be obtained. Questionnaires were used to examine the impact on the teachers' professional quality before and after the experiment. A semi-structured interview was conducted with 6 teachers selected to learn about their attitudes towards the experiment, the method, the content, and their

suggestions for the future program. All the interviews were transcribed and coded to identify emerging themes. The field materials include assignments in the web bulletin board, self-reflection journals by the teachers, question-and-answer web board postings, educational narratives, teaching plan, teaching video, etc..

"Questionnaires for Chinese English Teachers Professional quality in network environment" were used before and after the experiment for two reasons. Firstly, it is created with the purpose to measure the Chinese English teachers' professional quality. Secondly, it was based on the logic of a five-point Likert scale and could be used to measure the teachers' development at different stages. The following items were covered in the questionnaires:

Awareness was defined as teacher's attitudes and awareness of the importance of information technology and Internet in developing one's professional quality in the network environment (e.g. "I think information technology and Internet are important for English teacher development in the network environment").

Manipulation was referred to teachers' knowledge of Internet and related tools and the ability of manipulating the information tools (e.g. "I know the mechanism of computer and related equipment").

Recourses and Management was used to assess teacher's ability of obtaining resources and knowledge management via information technology (e.g. "I am able to share resources with others on the Internet").

Teaching design aimed to evaluate teacher's ability of analyzing teaching problems, setting teaching goals, and the ability of proposing teaching scenarios, enacting, evaluating and revising the scenarios, including the ability of teaching design, resource exploration and teaching practice (e.g. "I have good command of the fundamental teaching theories and methods").

Reflection and Innovation referred to teacher's ability of self-reflection, self-assessment, self-development and innovation (e.g. "I am able to innovate in the process of teaching and researching").

As for the overall satisfaction and suggestions, it was related to the experts' and administrators' effectiveness, assessment of team collaboration, and appropriateness of learning content. The main variables are: opportunities for learning construction; participation in the learning community, a sense of involvement; the appropriateness of learning tasks; support of collaborative learning; clearness and relevance of the discussion topics; experts' readiness and effectiveness; opportunities of self-assessment, self-reflection and self-monitoring; overall level of satisfaction with the program; and learners' further expectation and suggestions.

3.6 Data Analysis

The study included qualitative data and quantitative data. The quantitative data were analyzed by SPSS. And the qualitative data were coded by the researcher. To

understand the phenomena, organizing, categorizing and reflection were involved in the data analysis.

4. RESULTS AND DISCUSSION

4.1 The Impact on the Teachers' Professional Development

Before the experiment, pre-survey was carried out to examine if there was a significant difference between the experimental group and control group. The results show that there were no significant differences between the experiment group and the control group either at the overall level or at the level of the main factors.

After the experiment, we can see there is no significant difference at the overall level between the experimental group and the control group. However, the means of the experimental group are higher than those of the control group in each factor after the experiment which shows the experimental group has made greater progress than the control group. As for the factors, there is no significant difference in the factors of awareness, manipulation, resources, management, teaching design and reflection between the experimental group and the control group, but there is significant difference in the factor of innovation.

The mean of the experimental group in terms of the awareness factor ($M=4.5455$) is a little higher than that of the control group ($M=4.4848$) before the experiment. However, the means of the two groups ($M=4.6061$) are the same after the experiment. The possible reasons may be that the rapid development of network technology, especially the occurrence of MOOCs, pushes the university English teachers to realize the importance of the technology in education. Although the mean of the experimental group is higher after the experiment than that before the experiment, there is greater individual difference in the experimental group (.25847) than that in the control group (.17209). There is a sub-module "the effective English teachers' growth process" designed for the teachers in the module awareness. However, the effective teachers reflected more about their development in traditional environment, and seldom focused on their development in network environment.

As regards significant change in the experimental group in the factor innovation, the possible reasons are as follows:

In the pre-survey, the teachers showed strong desire for academic development. Therefore a sub-module "the design of academic research in higher education" was set to meet their needs. During the process of the experiment, sub-modules, such as "academic frontier", "strategies for academic research", "academic paper writing and publication" were added. The participated teachers showed great interest and took active part in writing their research proposal and participating in relevant research issues. The activities of learning, discussion, practice and reflection promoted their development in the factor innovation.

The results show that there is no significant difference for the experimental group before and after the experiment, but the means of each factor are higher after the experiment than those before the experiment. Furthermore, significant changes have taken place in the experimental group in the factors of manipulation, resources, management, teaching design, reflection and innovation after the experiment, which may indicate that the experiment has a positive effect on teachers' development.

4.2 Results From the Qualitative Data

After the experiment, 6 teachers were interviewed according to stratified sampling to examine the impact of the experiment deeply. Most of the teachers show that the experiment had a positive effect on their professional development and they could realize the different connotation of teacher professional quality between in the traditional teaching environment and in the network environment. The teachers elucidated:

The connotation of English professional quality in the network environment is richer than that in the traditional environment. This is a great challenge for us. Because we have to integrate information technology into English teaching. We have to learn to contrive the information, manage the information, and evaluate the information to enrich our knowledge. We have to learn how to communicate with others on Internet, use corpus to support our teaching and research and manage our achievements via knowledge management effectively. (EG 3)

As for the impact on the professional development, most of the teachers showed that their professional quality had been improved.

My greatest achievement is that I have acquired the frontier of teacher development and enriched my knowledge by expert-guiding. Many puzzling problems have been solved by communicating with others, which is helpful for my future teaching and learning. (EG5)

The result of the qualitative data was in agreement with the analysis of the quantitative data. The depth interview showed that the experiment had a positive impact on the university English teachers' development. They could realize the characteristics of university English teaching and the requirements for the university English teachers in the network environment, and their professional quality was improved.

4.3 The Effectiveness of the Learning Content and Methods

In order to explore the effectiveness of the content and methods, eight teachers were interviewed. Most of the teachers expressed their positive attitudes towards the learning content and learning methods. EG2 expressed:

I am very interested in the learning content. Based on the special topic module, I know how to use the platform effectively and learn more about the connotation of the university English teacher development. The process of many effective teachers'

growth makes me aware of the necessities to develop myself. The expert-guiding module offers me opportunity to communicate with my colleagues and experts, with my horizons broadened. Furthermore I accumulate a lot of teaching and learning materials by sharing the resources of others.

Based on the interview, we could see teachers were satisfied with the learning content and learning methods. Furthermore, teachers showed special interest in the special topic modules. As for the learning methods, the teachers showed that they like resource-sharing activity, communication and interaction, and expert-guidance.

4.4 Teachers Overall Assessment of the Experiment

At the end of the experiment, all the teachers were surveyed to explore the effectiveness of the experiment. Most of the items were focused on the teachers' overall assessment of the experiment. The Questionnaire recovery rate was 100% and all the questionnaires were valid.

As for the item "I am very satisfied with the experiment", 86.4% of the teachers showed that they strongly agreed with or agreed with the statement. 4.5% showed their neutral attitude towards the statement while 9% of the teachers expressed their different opinions. On the whole, most of the teachers took positive attitude towards the experiment.

As regards the item "The experiment made me fully understand the connotation of the university English teacher development in network environment", 81.8% of the teachers showed their positive attitude towards the statement, 9.1% of the teachers expressed their neutral attitude and 9.1% of the teachers indicated their disagreement with the statement.

As for the item "My professional quality has been wholly improved", 72.7% of the teachers showed they strongly agreed with the statement, 18.2% of the teachers expressed their neutral attitude towards the statement, with 18.2% of the teachers' disagreement.

As regards the item "I am aware of the importance and necessity for self-assessment in network environment by participating in the experiment", 90.9% of the teachers showed their agreement, with 4.5% of the teachers' neutral attitude and 4.5% of the teachers' disagreement.

As to the item "Virtual learning community is an effective way to my professional development", 86.4% of the teachers expressed their agreement with the statement, 4.5% of the teachers showed the neutral attitude and 9.1% of the teachers expressed their disagreement.

Based on the analysis, we can see most of the teachers showed their positive attitudes towards the experiment. Moreover, according to our observation, some teachers applied the knowledge learned in the experiment into the classroom teaching and designed the authentic teaching plan. Some teachers took active part in the micro-class competition and some of them designed their own research proposals.

4.5 The Teachers' Suggestions for the Future Learning

As for the learning content, the suggestions are: Curriculum website constriction and curriculum courseware development; the implication of the frequently used statistical software and valuable teaching videos; and academic frontier on applied linguistics and teachers' practical knowledge.

As for the learning methods, the suggestions are:

Integrating the traditional face-to-face learning with online learning; establishing an academic team; advocating cross-university communication and training; and having acknowledged experts guide the teachers' development.

CONCLUSION AND IMPLICATION

Although there are some limitations in the program, it did change the teachers a lot. The teachers understood the connotation of university English teacher professional development in the network environment better; their awareness and ability of self-improvement improved; they have learned how to use the information technology to assist their development, how to retrieval resources, how to share, analyze and evaluate the resources; they have learned how to reflect their teaching, how to do the related research and how to connect their research with the teaching practice. Communication and cooperation among the teachers and experts became more and more frequent. The ecological environment to promote teachers' development has come into being.

This experiment was carried out based on the large-scale investigation, which is a good attempt, which has some implications for university English teacher development.

Firstly, the learning content has to be based on the teachers' developmental needs. The needs analysis ought to be done before the program and the objectives of the training must be clear and targeted so that teachers' initiative and motivation can be activated. Only when teachers are fully aware of the necessity and urgency to promote their development, can they be involved in the program. Based on the survey, we can know the teachers' needs are: the challenge and opportunity for the English teachers that internet and information technology bring about; the connotation of university English teacher development in the network environment, how to teach and how to do research to achieve the interaction between research and teaching. This program meets the teachers' needs and is beneficial for teachers to solve their real problems and puzzles. Based on the program, it is suggested that the number of the teachers should not be too large, and the teachers are homogeneous to make sure they have similar interests to communicate and cooperate to improve the efficiency of the program. At the beginning of the program, make sure the teachers know about

the objectives, the content, the methods, the time, the requirements and evaluation through elaborate orientation to guarantee the effectiveness of the program.

Secondly, dynamic, open and interactional methods are effective way. Knowles (1990) points out that adult experience is of great value. Teachers' prior experience and knowledge are the trigger for their further learning. Their learning interests, motivation, needs, content and methods are based on their prior experience and knowledge. They can take advantage of their rich experience and can share their experience with others to achieve the mutual development. The characteristics of the adult learning determine that interactive communication is the main method of the program with teachers centered. What's more, the characteristics of Internet of openness, equality, dynamics and interaction also promote teachers to communicate with each other, and to interact with each other. While the openness and dynamics also require the learning content and learning methods be adapted according to the teachers' needs. The program shows that the interactive group discussion on open-ended questions is the most popular activity with the teachers.

Thirdly, the theory and practice should be integrated. Learning theory is very important for teacher development, especially the theory related to the university English teaching, which can provide teachers with creativity and flexibility to ensure teachers to deal with various changes in teaching. On the other hand, the theory should be integrated with teaching practice which is effective way for teacher development. Therefore, learning content in the program covers both theory and practice, the teaching design and classroom observation, model selection and teacher's reflection on their own teaching practice, the experts' demonstration of doing research and teachers' own research design. All the learning content and activities aim to integrate the theory into practice and encourage teachers to develop their indigenous theory based on their teaching practice.

Based on the analysis and discussion, we can see that the experimental study of intervention has a positive effect on the university English teachers professional quality. However, due to the short-time experiment and complicated factors that influence teachers' professional development as well as the delayed and long-term effects of education, the future study is to take the teachers' suggestions for the future study into consideration and a longitudinal study is of great necessity to learn more about university English teachers' professional development in the network environment.

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