A Study on University EFL Teachers' Information Literacy in China

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Abstract

Based on the review of definitions and connotations of teachers' information literacy, the study investigates the status quo of university EFL teachers' information literacy in China. Seven hundreds and eighty-four English teachers with different genders, professional titles and academic degrees from 23 universities in China participated in the study. The results show that: a) Chinese university EFL teachers' information literacy are generally at a medium level, with the ability of teaching design the lowest; b) male teachers are better at the aspect of instruments and implication, but there is no significant difference; c) teachers with a doctoral degree are at the highest at the aspects of resources and management, and efficiency and development; d) there is significantly difference between professors and other professional titles. Furthermore, some suggestions as to development of university EFL teachers' information literacy are put forward to.

Key words: Survey; Information literacy; University EFL teachers

INTRODUCTION

With the development of technology and internet, many new features have occurred in university EFL teaching, which leads to a great challenge for university EFL teachers. As a result, university EFL teachers have to adapt themselves to new changes through acquiring new abilities. Therefore, the professional development of university EFL teachers should be in accordance to the development trend of network environments.

The professional development of University EFL teachers directly affects the university English teaching effectiveness. In the field of foreign language education, "research-based teacher education" began in the 1990s. Many scholars focused their research on the cognitive aspects, such as language teacher literacy and teaching ability (Shulman, 1986; Dudley-Marling, 2006). In China, researchers put more emphasis on the non-cognitive aspect in contract with the cognitive aspect (Zhou, 2005; Dai & Zhang, 2004; Wu, 2008; Liu, 2005; Jia, 2006; Peng & Ye, 2006; Shi & Zhou, 2009). With the development of internet and technology, some researchers point out that information literacy is an integral part of university EFL Teachers' Professional Quality (Wang, 2010; Cai & Wu, 2014). However, systematic research on University EFL Teachers' Information literacy is rare. In order to learn about the status quo of University EFL Teachers' information literacy objectively and provide references for the professional development programs of university EFL teachers to further promote the quality of English teaching, a questionnaire on the status quo of university EFL Teachers' information literacy was designed in May 2014 and 784 university EFL teachers with different genders, professional titles and academic degrees from 23 colleges and universities in China participated in the study.

1. THE CONNOTATION OF UNIVERSITY EFL TEACHERS' INFORMATION LITERACY

In the last few years, some scholars have begun to focus on the connotation of university EFL Teachers'

information literacy. Dai & Wang (2011), based on the pedagogy, and information technology theories, propose the new connotation of university EFL teacher professional quality in information environments which include information and communication technology, online educational narrative research and online meta-evaluation. Chen (2010) synthesizes different definitions of information literacy and points out that information literacy specifically refers to a person who is able to recognize information when it is needed and how to retrieve, evaluate and make effective use of it and has the comprehensive ability of information processing, organization, refinement, innovation to obtain new knowledge. According to Zhang's study (2007), teachers' educational technology competence is composed of four dimensions which are media technology ability, information application ability, teaching practical ability and evaluation and research ability.

Based on the related literature and previous studies, a questionnaire was designed, including four dimensions which are instrument application, resources and management, teaching design, and development and innovation. Factor analysis and reliability analysis showed that the questionnaire had a high reliability and validity. Therefore it could be used to measure the status quo of university EFL Teachers' information literacy in China.

2. RESEARCH DESIGN

2.1 Research Questions

(a) To what extent did university EFL teachers in China develop their information literacy?

(b) Were there any significant differences between university EFL Teachers' information literacy as regards the factors of gender, academic degree, and professional title?

2.2 Subjects

Seven hundred and eight-four university EFL teachers from 23 universities in 12 provinces participated in the research based on stratified sampling. The specific information of the subjects is shown in Table 1.

Table 1
Specific Information of the Research Subjects

Items		Percentage
Gender	Male	30.50%
	Female	69.50%
Academic degree	Master	71.63%
	Doctor	28.37%
Professional title	Assistant	11.20%
	Lecturer	55.88%
	Associate professor	20.62%
	Professor	12.30%

2.3 Research Procedures

2.3.1 Questionnaire Survey

The questionnaire was designed according to the previous studies on university EFL teachers' professional quality (Wu, 2008; Zhou, 2005; Dai & Wang, 2011) and educational technology ability of teachers in colleges and universities (Zhang, 2007). It consisted two parts, with 49 items and Part I was about personal information, including gender, academic degree, professional title, time spent on academic research and class hours per week. Part II was used to measure university EFL Teachers' information literacy, with five-point Likert scale arranging from disagreement to agreement. The survey started from October 2014 to April 2015 through e-mail and effective rate is 75.60%.

2.3.2 Interview

In order to triangulate the result of the questionnaire survey, semi-structured telephone interview was adopted. Twelve university English teachers were chosen for depth interview in April 2015 and the Chinese language was used, with an average length of 15 minutes. All the content of the interviews was recorded, transcribed and translated into English.

2.4 Data Analysis

The results of the questionnaire survey were analyzed with SPSS17.0 statistical software and the interview materials were summarized by using thematic analysis. Furthermore, reliability analysis (all except the basic information) was used to guarantee the reliability of the questionnaire in the study. According to reliable analysis of the questionnaire, the reliability coefficient of the questionnaire is .914, indicating the questionnaire had high internal consistency.

3. RESULTS AND DISCUSSION

3.1 The Status Quo of the University EFL Teachers' Information Literacy in China

The mean of all the items of each dimension was deemed as the score used to measure the level of the university EFL Teachers' information literacy in the dimension and the mean of the four dimensions as the score to measure the overall level of the university EFL Teachers' information literacy.

The results of the analysis show that the university EFL Teachers' information literacy was at a moderate level, with the mean score 3.5445. As regards the dimensions, the development level in the dimension of instrument and application was highest whose mean score was 3.7836, followed by the dimension resources and management (M=3.7241), development and innovation (M=3.3785). The mean score in the dimension of teaching design was the lowest (M=3.2919).

According to the results of the survey and interview, more than 70% of the teachers agreed that they learned

about the basic knowledge and mechanism of computers and network teaching system. Most of the teachers showed that they could operate network teaching system smoothly. However, some of the teachers thought it difficult to adopt appropriate hardware and software according to students' learning needs.

Resources and management capabilities of university EFL teachers include the ability to access resources, and knowledge management ability. Survey and interview results show that more than 80% of the teachers had awareness to obtain teaching and research resources and share them through the network. They learned about the categories, characteristics of English teaching resources and methods of obtaining them in online environments. More than 70% of the teachers believed that they could retrieve and handle different information quickly and accurately, and analyze and identify the meaning and value of the acquired information, and exchange the information with others on the internet. Only 45% of the teachers agreed that they could use Corpus in their teaching and research. As regards knowledge management, only 48% of the teachers showed that they were able to update the resources and manage their teaching and research knowledge effectively.

Teaching design is the key to university EFL teachers' information literacy. Teaching design in online environments is different from the general design in its complexity of teaching situations and individual differences between learners. Therefore teaching design is essentially the process of solving problems creatively. Teaching design in online environments focuses on collaborative learning strategy, learning task design based on resources and tools, learning objectives, analytical framework of learner characteristics as well as the methods of diagnosing teaching problems based on digital information.

According to the results of surveys and interviews, more than 60% of the teachers had mastered the basic theory and method of teaching design in online environments, and had the ability to analyze and design learning objectives. However, less than 40% of the teachers were actively involved in the development of English teaching resources. More than 60% of the teachers had the ability to integrate useful network information resources and technology into English curriculum content and curriculum resources. However, only 33% of the teachers applied English teaching design principles to develop, implement and assess web-based interactive teaching software. Less than 30% of the teachers cooperated with educational technologists to design and develop web-based courses, which showed that university EFL teachers' interdisciplinary collaboration capabilities were to be strengthened, and their ability of designing and developing network resources needed to be further improved.

The dimension of development and innovation refers to university EFL teachers' ability to reflect their teaching activities, and develops themselves to achieve innovation. It means that university EFL teachers could achieve innovation in the process of teaching and research, take advantage of network information technology to facilitate lifelong learning, have a strong awareness of information security and be familiar with legal and ethical issues associated with the network.

Survey results and interviews showed that more than 50% of the teachers could adapt teaching strategies and methods to improve teaching effectiveness based on the evaluation and feedback information, and agreed that they learned about legal and ethical problem related to the network, had strong awareness of information security, had the ability to predict the application and validity of the internet in English teaching and research, and take advantage of network technology to get the frontier of the dynamic theory of professional development to achieve innovation in teaching and research. However, most of the teachers knew little about evaluation of university EFL in online environments and did not grasp the evaluation methods for teaching resources, teaching media and teaching effectiveness.

3.2 Comparison Analysis of University EFL Teachers' Information Literacy in Gender Difference

A comparison analysis was adopted to find out whether there was any difference between male teachers and female teachers in information literacy. The results of independent samples t-test were as follows:

The information literacy level of male teachers was almost the same as that of the female teacher. Although the mean score of male teachers (M=3.8577) was a little higher than those of female teachers (M=3.7542), yet there was no significant difference in overall aspect and the dimensions of resources and management, teaching design, development and innovation. However the difference in the dimension instrument and application was significant. Male teachers knew more about the basic principles of internet, computer and peripheral equipment.

The fact might be caused by social, cultural and psychological factors. Male teachers and female teachers undertook the same teaching tasks, but they had different social roles so that they have different expectations for themselves, leading to different behaviors. Male's personality traits of "assertiveness and independence" make male teachers have a strong desire to conquer. It is the same with the dimension of instrument and application. Interview showed that some male teachers regarded the mastery of principles of internet and technology as capital of establishing prestige.

This result was consistent with Turkle (cited from Maddux, 1995). Turkle believes the ability to master a computer network can be divided into "Hard Mastery" and "Soft Mastery". The male's mastery presents the features of systematicness, planning and objectivity. Their

aims are to bring computer and internet under control at their will. In comparison with male, female's mastery presents the impressiveness of artistry and subjectivity. They put more emphasis on the application of software. In other words, male teachers showed special preference to computer hardware and procedural aspects, while female teachers are more inclined to use software.

Furthermore, female teachers took on more family tasks, compared with male teachers. According to this study, female teachers spent less time on the research (p=.002), which is due to female teachers' assuming more responsibilities in the family. Therefore, gender difference and complementarity play an important role in promoting university EFL Teachers' information literacy.

3.3 Comparison Analysis of University EFL Teachers' Information Literacy With Different Academic Titles

A comparison analysis was used to test whether there was any difference in university EFL teachers' information literacy in terms of academic titles. The results of one-way ANOVA and Post Hoc Multiple Comparison Test were as follows.

University EFL teachers' information literacy was in accordance with their academic titles. There were significant differences between different academic titles in the overall level and in the dimensions of instrument and application, resources and management, teaching design, development and innovation. The results of Post Hoc Multiple Comparison Test indicated that there were significant differences between assistants and lecturers (p=.011), professors and lecturers (p=.012) in their overall level. As for teaching design, there were significant differences between professors and lecturers, lecturers and assistants (p=.007). As for the dimension development and innovation, there were significant differences between assistants and lecturers (p=.001), lecturers and associate professors (p=.014). As for the dimension resources and management, there were significant differences between lecturers and professors (p = .015).

Academic title is the title of professional and technical personnel, which is the comprehensive reflection of university teachers' academic achievement, and technical level. The higher the academic title, the higher their academic level is. This study showed that there were significant differences between assistants and professors, lecturers and professors in terms of the overall level of professional development. Professors had rich teaching experience, the highest academic level and most proficiency in professional skills. Accordingly the level of their information literacy was highest. Compared with professors, lecturers took up more teaching tasks (p=.008), and spent less time on research (p=.000). Thus the level of their information literacy was the lowest. Assistants had little teaching experience. As a result there was far more space for them to improve their information literacy.

3.4 Comparison Analysis of University EFL Teachers' Information Literacy in Terms of Academic Degrees

One-way ANOVA was used to test whether there were significant differences in university EFL teachers' information literacy in aspect of academic degrees. The results showed that there was no significant difference in the level of university EFL teachers' information literacy in terms of academic degrees. However, the teachers with a doctor degree obtained higher mean scores in the dimensions of resources and management, and development and innovation, which also indicates the advantage of the teachers who got a doctor degree. Innovation, normative and ethicality are three criteria to measure doctors' academic achievements. They read a lot of literatures and managed their resources effectively before they obtained their doctor degree. There was no wonder why they had the advantage in the two dimensions. Compared with teachers with a doctor degree, the teachers with a master degree took on more teaching tasks (p=.006) and devoted less time to scientific research (p=.038), which resulted in their relatively lower level of information literacy.

4. CONCLUSION AND SUGGESTIONS FOR DEVELOPMENT OF UNIVERSITY EFL TEACHERS' INFORMATION LITERACY

Based on the review of definitions and connotations of teachers' information literacy, the study investigates the status quo of university EFL teachers' information literacy in China. The results show that: a) Chinese university EFL teachers' information literacy are generally at a medium level, with the ability of teaching design the lowest; b) male teachers are better at the aspect of instruments and implication, but there are no significant difference; c) teachers with a doctoral degree are at the highest at the aspects of resources and management, and efficiency and development; d) there is significant difference between professors and other professional titles.

Based on the results of this study, some suggestions as for university EFL teachers' information literacy are put forward to.

Firstly, the level of university EFL teachers' information literacy is of great significance for the university EFL teaching and teachers' sustainable development. University EFL teachers need to further improve their information literacy level in the dimensions of instrument and application, resources and management, especially in the dimension of teaching design.

Secondly, since there are differences in the information literacy between the teachers with different genders, professional titles, and academic degrees, the factors of gender, academic degree, and professional title should be taken into consideration in the formation of a teaching team and a research team to take full advantages of all the

teachers' wisdom, especially the professors' wisdom, to enhance information literacy of the whole team.

Thirdly, university EFL teachers are overburdened with teaching tasks, and what's worse, there is no good research conditions for them, eventually leading to their low level of information literacy, which is a great hindrance to university EFL teachers' development. Therefore, we call on the relevant departments to give substantial support in the aspects of policy-making, disciplinary construction and work setting, strengthen the construction of academic echelon formation and cultivation of academic leaders and academic backbone team, and set up a scaffold for their development so that they have more time, space and opportunities to promote their information literacy. It is expected that the problem must be solved without delay.

It is worthwhile to do some research to improve university EFL teachers' information literacy, beginning with teacher training and change of their social environments. This study is only a preliminary survey of university EFL teachers' information literacy, and the scope and sampling are far from perfect. What impacts does university EFL teachers' information literacy have their teaching levels, students' learning ability, their academic performances, and their overall quality of English teaching? The question needs in-depth study. In addition, very few systematic studies are related to university EFL teachers' information literacy and there is no consensus on the connotation of university EFL teachers' information literacy and the theoretical basis is not yet mature. Therefore, all these studies can be used as striving direction for the related researcher. It is hoped that more scholars are involved in the related research to find an effective way to realize the development of university EFL teachers' information literacy.

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