
Research on the Information Literacy of International Chinese Language Teacher

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Abstract: In latest years, international Chinese language education has been mostly taught online, so it is urgent to improve teacher's information literacy. In order to depict the current situation of teachers' information literacy, this research constructed an assessment framework of four secondary variables of information awareness, information knowledge, information competence, and information ethics based on theories of educational ecology, stages of teachers' professional development, and educational information theory. This research did the digital questionnaire survey with 57 participants throughout the country and employed the software of SPSS 26.0 to analyze data with t-test, ANOVA and correlation analysis. The result shows the advantage of participants' information ethics (Mean=4.40) and the drawback of their information knowledge (Mean=3.95). It then finds that participants' information literacy maybe influenced by individual factors, such as overseas experience, their post-service training experiences, and by informatization level of their affiliates. Therefore, this research suggests that efforts shall be made to improve teachers' information knowledge and information competence. Meanwhile, foreign working experiences as well as post-service training ought to be attached more importance and language schools may improve their informatization level. In conclusion, it is hoped that this research may contribute to improving international Chinese language teachers' information literacy.

Keywords: International Chinese Language Teachers, Information Literacy, Assessment, Influencing Factors

1. Introduction

With comprehensively reform of education in the new era, it is increasingly important for teachers to continuously improve their integral literacy besides their teaching knowledge and educational teaching ability. In this research, the teachers' comprehensive literacy refers to necessary professional qualities of educating and teaching activities. And its specific contents will continue to develop with social changes. Nowadays knowledge acquisition is more convenient and education resources can be shared globally with the rapid development of information technology. Scholars believe that the core competence of teachers in the future shall be embodied by information literacy [1, 2]. It can be seen that information literacy has become one of the essential qualities for teachers in the digital age.

The term information literacy was first proposed by Paul

Zekowski, president of the American Information Industry Association in 1974 while Chinese scholars began to study in the late 1980s. Wang and Guo believed that information literacy combines two connotations of information awareness and information competence [3, 4]; Zhong and Ming attached another connotation of information ethic into them [5, 6]. However, it is generally believed that information literacy is a complex concept of information awareness, information knowledge, information competence and information ethics.

International Chinese language teacher refers to all teachers worldwide who teach Chinese as a second language. In the 21st century international Chinese education is facing some new problems, such as the quality and competence of teachers, language education technology especially network teaching, and so on. *Professional Competence Standards for International Chinese Language Teachers* (2022) took educational technology as an important factor to assess the

professional skills of teachers. Although there have been many researches on international Chinese language teachers in the areas of teacher quality [7-11], teacher's professional development [12-16], teacher training [17-19] and teacher evaluation [20, 21], most research findings do not explore the characteristics of the information age. Even if information literacy is occasionally mentioned in the areas such as the quality or professional development of international Chinese language teachers, there is few special thematic studies conducted. However, with the global outbreak of COVID-19 in 2020, international Chinese language teachers need to improve information literacy to promote the education reform, improve the training system of teacher education, and to follow the developing pace of international Chinese language education.

2. Literature Review

Information literacy is a kind of quality, with which individuals can acquire, utilize, process, and transmit information. It is composed of four sub-variables, namely, information awareness, information knowledge, information competence, and information ethics. Theories of educational ecology, stages of teachers' professional development, and educational information theory all stress the necessity of information literacy from different perspectives.

Educational ecology stresses the relationship between educational ecosystem and various ecological environments and their constituent elements [22]. The various units and factors in the educational ecosystem may produce an overall effect by interconnecting, interacting and influencing each other as well as regulating and restraining each other [23]. With the modernization of information technology and the booming trend of "Internet+ Education model", the important factor of information technology has profoundly influenced the whole international Chinese language education ecosystem. Information knowledge is not only an important part of educational knowledge, but also a part of other systems. To cultivate the teachers, main subjects of the educational ecosystem, their information competence as well as the educational plan, objectives, content and curriculum design all shall be improved to fully realize their developmental education belief, to confront the challenge of integrating educational information knowledge and technology with curriculum teaching, and to maintain the balance of the educational ecology.

Teacher's professional development is a continuously dynamic process, in which teachers' career experiences gradually move from immaturity to maturity. They continuously recognize, analyze and solve problems. Right in this process, teachers show different needs, ideological, psychological, and behavioral problems. Upon the essential features the process can be divided into different stages [24]. Out of different research perspectives, scholars divide teachers' professional development into two or three stages. The later means stages of pre-service, early-service, and post-service [25]. Upon the previous researches, pre-service

education and training doesn't attach enough importance to teachers' information literacy in the digital era by lacking content of information knowledge and information competence. In the stage of early-service, teachers need to play the role and adapt to the environment better by sharing resource and assisting each other. For post-service stage, teachers had better make good of information technology to realize the goal of life-long learning. Language teaching schools shall realize the potential and basic function of information competence by stressing the importance of information awareness and information knowledge either in stages of pre or early service. To better teach Chinese as a second language, post-service teachers need to be more sensitive to information ethics. In the digital era teachers need to break the rigid teaching model by combining information technology with international Chinese language education.

Educational informatization refers to the comprehensive use of modern information technology based on computer multimedia and network communication. It may promote comprehensive education reform and make it to adapt to the new requirements of the latest information society [26]. It is crucial to build an adequate and qualified teaching team with high information literacy because teachers are the important objects of educational information. There are not only rules and regulations but also achievements on educational information. However teachers who teach Chinese as second language don't understand the new trend well. They need to be more aware of information development and related ethics, accumulate more information knowledge and better improve their information competence.

To sum up, Chinese scholars have not done enough researches on the information literacy of international Chinese language teachers. As one of the main staff of international Chinese language education, their information literacy weighs a lot on whether this career can adapt to the rapidly developing environment. Therefore, this paper aims to answer the following two questions:

- (1) What's the status quo of the information literacy of Chinese second language teachers?
- (2) What might be the factors that influence their information literacy?

3. Research Methodology

3.1. Research Framework

This research adopted the questionnaire survey which were mainly derived from Information Literacy Theory [27], *The Standard for International Chinese Language Teachers* (2012), *Introduction to Educational Technology of Chinese as a Foreign Language* [28], and some master curricular of Teaching Chinese as Foreign Language in mainland universities. The questionnaire consisted of 69 questions including three parts of demographic information, information literacy and informatization level of affiliations. The respondents were required to check the five-scale Likert Scale

of each question which was respectively reflected the above-mentioned four variables of information awareness, information knowledge, information competence and information ethics. The demographic information included gender, age, major, educational background, work location, affiliation and its level of informatization. Information ethics refers to the ethical norms that should be observed in the process of acquiring and using information. Information awareness is defined as awareness and sensitivity to the important function, necessity and internal demand of informatization in Chinese teaching. Information knowledge refers to the basic knowledge related to information technology. It includes both technical knowledge and technical application knowledge. Information competence refers to the ability of international Chinese language teachers to acquire, process, handle, transmit, and create information. Among the four variables, information awareness plays the role of the premise, information knowledge plays the role of foundation, information competence plays the role of the core, and information ethics steering the direction of international Chinese language teachers' information literacy.

3.2. Data Collection

With the help of WeChat Questionnaire mini program, this survey was digitally distributed in the social-media groups of international Chinese language teachers and supplemented in the way of "snowball". Participants came from eastern, middle and western parts of China. The questionnaires were distributed from May 24, 2022 to June 8, 2022. A total of 67 questionnaires were collected 57 of which were valid with the effective answer rate of 85.1%. SPSS26.0 was used to analyze the data through descriptive statistics, T-test, One-Way ANOVA and correlation analysis.

3.3. Participants

Among the 57 teachers who taught Chinese as foreign language, 5 (8.8%) were male, and 52 (91.2%) were female. Except 1 Ph.D and 44 (77.19%) master graduates there were 12 (21.05%) bachelor graduates. 17 (29.82%) had ever worked abroad, while 40 (70.18%) always taught inside China. When talking about post-service training, there were 40 (70.2%) people who trained themselves by colleague consultation and self-taught study, 38 (66.7%) participants were trained by schools and 5 (8.8%) were trained by higher municipal institutes.

4. Results

4.1. Status Quo of Information Literacy

Descriptive statistics reveal that teachers' information literacy is generally good (Mean=4.20) with the information ethics standing highest (Mean=4.40) and information knowledge lowest (Mean=3.95). The following parts elaborate the details.

4.1.1. Information Ethics

The general mean of information ethics is 4.40, standing the highest of the four variables. There are 7 questions asked, including teachers' understanding of rules and regulations compliance, professional morality, social public morality, intellectual property protection and individual privacy protection, etc. The following Table 1. reads that teachers greatly value the social public ethnics (Mean=4.49), then the local rules and regulations for foreigners (Mean=4.46), teacher's vocational morality (Mean=4.44) and protection of their students' privacy (Mean=4.44). Questions like teachers' understanding of other local rules or information assessment stands bottom (Mean=4.39; Mean=4.32) and the lowest knowledge is about the intellectual property protection (Mean=4.30).

Table 1. Means and Standard Deviations of Information Ethics.

Questions	Mean	Std.
Abiding by the social public ethnics	4.49	.889
Abiding by the rules and regulations of foreigners	4.46	.888
Abiding by teaching professional morality	4.44	.866
Respecting and protecting students' privacy	4.44	.866
Abiding by other rules and regulations	4.39	.940
Fairly and scientifically assessing information	4.32	.890
Respecting and protecting intellectual property rights	4.30	.944

Note: The number "1" refers to "I totally disagree" and "5" refers to "I totally agree" in Likert five-scale questionnaire. And the references of numbers are the same for the following tables.

4.1.2. Information Awareness

The general mean of information awareness is 4.27, standing next to the information ethics. There are also 7 related questions. The following Table 2. tells that teachers are best aware of the function of information technology in Chinese language teaching and in their professional development (Mean=4.39; Mean=4.37). So they expect to improve their information skills (Mean=4.33). However, they don't closely follow the latest development of information technology in education (Mean=4.07).

Table 2. Means and Standard Deviations of Information Awareness.

Questions	Mean	Std.
Expecting to promote international Chinese language education with information technology	4.39	.774
Realizing that information technology can promote professional development.	4.37	.747
Expecting to improve information technology skills	4.33	.873
Realizing the change of international Chinese language education in the digital era	4.26	.917
Willing to use information technology for language education	4.26	.877
Perceiving the potential problems of information security awareness	4.21	.840
Following latest information development	4.07	.904

4.1.3. Information Competence

The information competence can be reflected by basic operating ability of information system, ability to use hardware and software, ability to use network teaching resources and ability to apply information technology in teaching. The data show that teachers’ ability to use information resources and to use hardware and software are relatively high (Mean=4.33; Mean=4.28; Mean=4.26). teachers are good at these basic operation skills. However,

there are two weaknesses in other question. Teachers are not very well in second language teaching skill, scientific research and expertise development with the help with information technology. The most demanding competence of the participants are their ability to innovatively create their teaching space, teaching environment, teaching content and extra- curricular activities. The teachers also need to know better how to improve themselves in the respect of expertise, cross-cultural competence and teaching prediction, and so on.

Table 3. Means and Standard Deviations of Information competence.

Questions	Mean	Std.
Ability to use regular software	4.33	.893
Ability to study cultures with network resources	4.33	.740
Ability to study encyclopedic knowledge with network resources	4.28	.840
Ability to store teaching resources into computers	4.28	.861
Ability to use multimedia equipments	4.26	.813
Ability to improve cross-cultural competence with technology	4.26	.856
Ability to share educational resources though internet	4.26	.877
Ability to operate information systems	4.25	.892
Ability to manage class with technology	4.23	.682
Ability to study fundamental theories with network resources	4.23	.866
Ability to accomplish teaching tasks with technology	4.21	.796
Ability to increase students’ Chinese score with technology	4.19	.766
Ability to to spread Chinese culture with technology	4.19	.854
Ability to strengthen second language skills with technology	4.18	.805
Ability to widen teaching space with technology	4.18	.805
Ability to widen teaching content with technology	4.18	.805
Ability to do scientific research with technology	4.16	.751
Ability to develop expertise with technology	4.12	.847
Ability to test and assess with technology	4.11	.900
Ability to improve foreign language with technology	4.09	.892
Ability to increase students’ Chinese score with technology	4.05	.854
Ability to construct communicative environment with technology	4.02	.790
Ability to predict teaching with technology	4.00	.845
Ability to launch extra-curricular activities with technology	3.77	.982

4.1.4. Information Knowledge

Information system is composed of hardware system, software system and human. The following data in Table 4 show that international Chinese language teachers have already got a relatively full understanding of basic hardware and software commonly used in information systems. They can consciously obtain the required ability to meet the basic

needs in the digital era (Mean=4.32; Mean=4.28; Mean=4.25). However, they don’t know further much about their specific impacts, special rules and regulations and the coming latest teaching belief in the new era (Mean=3.91; Mean=3.86; Mean=3.81). Not to mention their knowledge of computer-assisted construction or developing history of information technology (Mean=3.75; Mean=3.46).

Table 4. Means and Standard Deviations of Information knowledge.

Questions	Mean	Std.
Knowing the characters and functions of relevant software	4.32	.869
Knowing the characters and functions of relevant facilities	4.28	.861
Knowing the regular information exploring tools	4.25	.786
Knowing the specifics of the information technology impact	3.91	.912
Knowing laws and regulations on information	3.86	1.043
Knowing the new teaching belief in information era	3.81	.811
Knowing the composition of computer-assisted Chinese construction system	3.75	1.229
Knowledge of the history and trend of information technology development	3.46	1.036

4.2. Influencing Factors

Taking all demographic information and informatization levels of teaching schools as independent variables, variables of information literacy as dependent variables, the results show information literacy is significantly influenced by

overseas experience, post-service training and informatization level of affiliations.

4.2.1. Overseas Experience

There are significant impacts of overseas working experience on the information awareness and information

ethics ($t = 2.308$, $df = 55$, $sig = 0.025$; $t = 2.218$, $df = 55$, $sig = 0.031$). Specifically speaking, whether the teachers have ever worked abroad significantly influences their awareness of the new digital era and information development and their willingness to improve their skills for language teaching. And experiences of working abroad also make the teachers more realize the importance of rules and regulations, professional morality and social public morality.

4.2.2. Post-Service Training

It is well known that teachers need a lot of post-service training. Among the various forms of training, it seems that colleague consultation and self-taught study are more effective for their efficient and targeted training. Generally speaking, post-service training plays a significant role on information ethics ($F = 2.815$, $sig = 0.048$). It helps teachers to assess information scientifically and better protect their

students' privacy ($F=4.49$, $sig=0.007$; $F= 3.398$, $sig=0.024$). And post-service training also impacts teachers' ability to construct communicative environment, to widen teaching space, to increase students' Chinese scores and to share teaching resources although it doesn't influence the information competence on the whole ($F=3.545$, $sig=0.02$; $F=4.703$, $sig=0.006$; $F=3.288$, $sig=0.028$; $F =5.463$, $sig=0.002$).

4.2.3. Informatization Level of Affiliations

Overall, informatization level of affiliations is moderately correlated with the four variables respectively. It is closely related with all variables of information awareness, information knowledge, information competence, and information ethics ($r=0.515$, $sig<0.001$; $r=0.405$, $sig=0.002$; $r=0.566$, $sig<0.001$; $r=0.48$, $sig<0.001$). Please see the detailed Table 5.

Table 5. Correlation of Informatization Level with Information literacy.

	Information Awareness	Information Knowledge	Information Competence	Information Ethics
Network Coverage	Medium	weak	Medium	Medium
Financial investment	weak	weak	Medium	None
Satisfaction of teaching needs	weak	None	weak	None
Priority Given by Leadership	Medium	Medium	Medium	Medium
Informatization Teaching Atmosphere	Medium	weak	Strong	Strong

As the above table shows, different aspects of informatization level relates to various aspects of teachers' information literacy. Priority given by leadership relates to each variables of information literacy however the teaching atmosphere strongly relates to both teachers' competence and their ethics. Then the range of network coverage moderately relates to teachers' awareness, competence and ethics. It is sadly seen that whether teachers' needs are satisfied doesn't effect much.

5. Discussion

5.1. Information Competence and Knowledge Need to Be Increased

As mentioned above, international Chinese language teachers strongly realize the importance of information ethics and information awareness, but their information competence and information knowledge don't seem as strong. This founding is in line with previous researches [29-31]. *Professional Competence Standards for International Chinese Language Teachers* (2022) explicitly stipulates the professional ethics requirements, which becomes the basic requirement of teachers wherever they teach and whoever they teach. In response to the informatization technology development in overall education, Chinese schools also have to accelerate their informatization construction. When overcoming the century pandemics of Covid-19, international Chinese language teachers are growingly aware of the significance of information technology. Nowadays the rapid development of information technology in society has demanded teachers' rapid and flexible adaptability to the

change. Therefore their information knowledge becomes indispensable. Thus the international Chinese language teachers should constantly improve and update their information knowledge with the development of the age. However, the information knowledge of the teachers for the moment is relatively shallow. Although most of them are able to use facilities for daily teaching, they know little about higher-level knowledge like teaching systems, computer-assisted construction and so on.

5.2. The Pace of "Going out" Need Be Accelerated

There are 22 universities entitled doctoral degree programs and nearly 200 universities and colleges entitled Professional Master's degree programs in China. However, the contradictory dilemma is that the domestic graduates employment rate is relative low and there exists great shortage of Chinese teachers abroad [32]. It has been proven that teachers with overseas working experience show significantly better information awareness and information ethics than those who always stay inside China. Therefore, "going-out" can be taken as an effective measures to improve teachers' information literacy. On the one hand, it can solve the urgent problems of staff shortage. It can also greatly strengthen the individual informatization level and cross-cultural competence on the other hand. It is beneficial for teachers' themselves as well as for the Chinese teaching career in the long run.

5.3. Teachers' Training Needs to Be Improved and Diversified

International Chinese language teachers need a wealth of

knowledge and skills, diversified training is an effective way to meet the needs. However, the content of their training is mainly focused on theoretical knowledge, and teachers are usually trained through lectures, videos, micro-lecture, and Massive Open Online Courses et al. There are few trial lecture sessions for the participants. Moreover, they have few opportunities to fulfill real teaching task in real classroom. Thus, graduates don't really develop their information skills and literacy well. When they really confront technical problems, they may even need more help than they are in universities. So graduates need to be trained more frequently in various ways to meet the ever-changing demand of technology development.

5.4. Informatization Level Needs to Be Raised

In accordance with *Guide to the Construction of Digital Resources for International Chinese Language Education and Action Plan for the Construction of Teaching Resources for International Chinese Language Education (2021-2025)*, it is necessary for language schools to update their hardware. The schools and universities need to put more investment into technology construction either to improve their informatization environment or diversify their teaching resources. When the teachers notice the hardware and software construction of the external atmosphere, their consciousness can be awakened and they will actively acquire information knowledge in order to satisfy their curiosity. And they will also encounter and solve various ethical issues when using hardware and software facilities [27]. So the higher the level of informatization of the teaching schools, the better it is to improve the teachers' information literacy.

6. Conclusion

With the rapid development of technology in China, there are profound changes taking place in respects of production, work, study and life. International Chinese language education is an important part of China's education system. It is hardly to satisfy the various learning demand if the education system still remain old- modeled. International Chinese language teachers are commissioned heavily in better language teaching and cultural inter-communicating. So they are required to be skillful in information technology to meet the challenges and to break through the development bottleneck. Therefore, international Chinese language teachers should develop a proactive view of information literacy and fully understand their importance in the transformative period of Chinese language education.

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Notes on Contributors

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Jiale Zheng, master candidate of Xinjiang Normal University, is mainly researching literacy of international Chinese language teacher.

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