

Research on Middle School English Teachers' Information

—Literacy and Cultivation Strategies Based on Questionnaires

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Abstract: With the development of information technology, Informatization has had a great impact on people's lives and education. With the development of educational information, the information literacy of middle school English teachers has also become the focus of basic education. This paper uses questionnaires and interviews to investigate and research the information literacy of 200 middle school English teachers in Jiangxi Province. The purpose of this paper is to understand the status quo and problems of the information literacy of middle school English teachers in Jiangxi Province, which provide theoretical reference and practical guidance for promotion of information literacy of middle school English teachers in Jiangxi Province.

1. Introduction

With the rapid development of science and technology in twenty-first Century, the world has set off a wave of network informationization, China's education will accelerate the pace of informationization. The Ministry of Education clearly stated in the “13th Five-Year Plan for Education Informationization” in 2016: “The ability of teachers is the key to deepen the integration of information technology and education. The Ministry of Education and schools should establish a sound standard of teacher information technology application ability, incorporate the training of information-based teaching ability into the index system for the evaluation of the level of primary and secondary schools, and incorporate teacher information technology application skills into teacher training compulsory learning courses.” Therefore, in order to actively promote the process of educational informationization and meet the challenges of educational informationization, it is urgent to build primary and secondary school teachers with higher information literacy.

2. The Connotation of Information Literacy of Middle School English Teachers

Information literacy was originally proposed by president of the US information industry-Paul Turkowski. He believes that information literacy is “the technology and skills that have been trained to use information tools and key sources of information to solve practical problems.” The American Library Association have made an authoritative definition of information literacy-the ability to determine when information needs to be applied and to retrieve, evaluate, and effectively use it. With the development of the educational information, due to the teacher is a unique profession, Information literacy of middle school English teachers is an important part of national basic education, has also become a hot topic of current research.

Teacher information literacy mainly refers to whether teachers have the ability to face the challenge of educational informationization. For middle school English teachers, it mainly refers to the ability to acquire, process, process and use information to solve problems in the process of education. Therefore, the information literacy of middle school English teachers is not simply include “educational technology ability” or “information technology”, but also include four aspects: information awareness, information knowledge, information ability and information ethics,etc.

The information awareness mainly refers to the important role of information in teaching work, and teachers can actively feel the demand for information, find valuable information, and apply the information to practical work. The information knowledge of middle school English teachers include modern information technology, and the role and development of information. Information

ability mainly refers to the ability to use computers to acquire, transmit, and process information. Information ethics mainly refers to the moral and legal knowledge that should be followed in the acquisition, processing and transmission of information, and conveys the knowledge of information ethics to students in teaching activities.

3. Research design

3.1 Research tools

This study mainly uses questionnaires as the main method, supplemented by interviews. According to China's "National Small and Medium-sized Teacher Education Technology Competency Standards" and "Secondary English Teachers Information Technology Training Guidance (Trial)", This paper designs a questionnaire for middle school English teachers' information literacy from four dimensions: information consciousness, information knowledge, information ability and information ethics.

The questionnaire consists of three parts. The first part refers to the teacher's personal situation, mainly includes gender, age, professional title, teaching age, etc. The second part refers to the basic situation of the school, mainly includes multimedia equipment and information technology training. The third part refers to the information literacy of middle school English teachers. The questionnaire mainly includes information awareness, information knowledge, information ability and information ethics, with a total of 26 topics. The questionnaire was designed in random distribution method, mainly understand the four aspects: (1) The level of information awareness of middle school English teachers in Jiangxi Province; (2) The level of information knowledge of middle school English teachers in Jiangxi Province; (3) The level of information ability of middle school English teachers in Jiangxi Province; (4) The information ethics of English teachers in middle schools in Jiangxi Province.

In order to test the reliability and validity of this questionnaire, 50 middle school English teachers were randomly selected to pass the electronic questionnaire before the formal investigation. The reliability and validity questionnaire was 45, which were analyzed by SPSS 19.0. Analysis showed that the A value was 0.81, indicating that the questionnaire was highly reliable. This questionnaire is based on the existing research results and test results, which ensure the content validity of the questionnaire.

3.2 Research object

In order to understand the information literacy status of middle school English teachers in Jiangxi Province, this study takes 12 in-service teachers in Jiangxi Province as the research object. The in-service teachers mainly refer to full-time teachers, not include teaching administrators and management personnel, and randomly issue questionnaires to in-service teachers. A total of 200 copies were distributed, 200 copies were recovered, and 190 valid questionnaires were collected. The effective rate of questionnaires survey was 95%.

The questionnaire involved 200 in-service teachers in 12 middle schools. The basic situation of the respondents is shown in Table 1. Among them, 38 male teachers, accounting for 20%, female teachers 152, accounting for 80% of the total number; among 21 years old to 30 years old teachers, accounting for 30%, from 31years old to 40 years old teachers, accounting for 40%, Over 40 years old teachers, accounted for 30%; middle school junior teachers have 100 people, accounted for 52.6% of the total number, middle school senior teachers have 58 people, accounted for 30.5% of the total number, the other accounted for 16.9%; Teachers with technical secondary school was 7 people, accounted for 3.7% of the total number, teachers with associate degree was 30 people, accounted for 15.8% of the total number, teachers with bachelor degree was 130 people, accounted for 68.4% of the total number, and teachers with graduate degree was 23 people, accounted for 12.1% of the total number; There are 37 teachers with a teaching age of less than five years, accounting for 19.5% of the total number, 81 teachers with a teaching age of 6-15 years, accounting for 42.6% of the total number, and 72 teachers with a teaching age of more than 15 years. Accounting for 38.8% of the

total number. The data shows that the young and middle-aged teachers under the age of 40 in the middle school English teachers in Jiangxi Province account for the majority, and most of them are bachelor degree or above. These teachers are more likely to accept new things in information literacy and are willing to try new things.

Table 1. Basic situation of the respondents

Categories		Number of people	Percent
age	21-30	57	30%
	31-40	76	40%
	Over 41	57	30%
gender	male	38	20%
	female	152	80%
professional title	Middle school senior	58	30.5%
	Middle school junior	100	52.6%
	Other	32	16.9%
Education	technical secondary school	7	3.7%
	associate degree	30	15.8%
	bachelor degree	130	68.4%
	graduate degree	23	12.1%
Teaching age	Within 5 years	37	19.5%
	6-15	81	42.6%
	Over 15 years	72	38.8%

4. Investigation and statistical analysis of information literacy of middle school English teachers in Jiangxi Province

According to the questionnaire survey, this paper uses spss software to collect and analyze the status quo of information literacy of middle school English teachers in Jiangxi Province from four aspects: information awareness, information knowledge, information ability and information ethics.

4.1 The level of information awareness of middle school English teachers

Information awareness mainly refers to people's sensitivity to information, including the ability to identify and acquire information, and the ability to analyze and use information. In the aspect of information awareness, this paper set three questions: first, the degree that teacher's understanding of the professional term "information literacy"; second, the degree of teachers using network resources to prepare lessons, third, the ability of teachers to organize students to use network resources for learning. According to survey statistics, 12.3% of teachers have never heard of the term information literacy, 56.3% of teachers are not familiar with information literacy, 20.5% of teachers are generally familiar with information literacy, 7.5% and 3.4% of teachers are familiar and fully familiar with information literacy. From the survey, It can be seen that most middle school English teachers are not familiar with information literacy and have little understanding of the concept of information literacy. 33.2% of teachers often use online resources to prepare lessons, 40.6% of teachers sometimes use online resources to prepare lessons, while 19.4% and 6.8% of middle school English teachers seldom use and never use network resources to prepare lessons. From the data, most teachers know how to use network resources to prepare lessons and teaching, however, about one-third of teachers rarely use or don't use online resources to prepare lessons. 28.8% of teachers often organize students to use online resources for learning, 48.5% of teachers sometimes organize students to use online resources for learning, while 18.6% and 4.1% of middle school English teachers rarely organize and do not use network resources for learning. The results from the three questions show that middle school English teachers have a stronger sense of using information, they can actively use network resources for lesson preparation and teaching, and can organize students to use network resources to learn, but have no comprehensive understanding of

the concept of information awareness, only one-sided, shallow understanding of information awareness.

4.2 Information knowledge level of middle school English teachers

In terms of information knowledge, the questionnaire mainly sets 5 questions and examines the knowledge of information knowledge through five levels. From Table 2, 2.8%, 24.5%, and 32.3% of middle school English teachers are fully familiar, generally familiar and familiar with computer hardware knowledge, 35.4% of middle school English teachers know a little computer hardware knowledge and 5% middle school English teachers do not understand computer hardware knowledge. It shows that most middle school English teachers are familiar with computer hardware knowledge. According to the questionnaire to the middle school English teachers about the familiarity with the common used Word/Wps file operation and multimedia courseware production, Middle school English teachers have similar percentages of familiarity with commonly used Word/Wps file operations and multimedia courseware production, about 80% or more middle school English teachers are familiar with Word/Wps file operations and multimedia courseware production. Only about 10% of teachers understand little or do not understand Word/Wps file operations and multimedia courseware production. In addition, in the statistical analysis of the questionnaire, it is found that the percentage of familiarity of middle school English teachers in dealing with image, video and audio software is similar. 55.1% of middle school English teachers know little and do not understand images and video processing technology at all, 51.2% of middle school English teachers understand a little to audio processing technology. And less than half of middle school English teachers are familiar with audio, image and video processing techniques. According to the data in Table 2, all in all, middle school English teachers are familiar with some common used computer hardware knowledge, Word/WPS and multimedia production, and are not familiar with some image processing techniques that seldom use, which exposure the imbalance problem of information knowledge of middle school English teachers.

Table 2. Information knowledge level of middle school English teachers

Information knowledge	Fully familiar	Generally familiar	familiar	Understand little	Not understand
Computer hardware knowledge	2.8%	24.5%	32.3	35.4%	5%
Word/WPS text operation	20.8%	42.8%	20.5%	15.3%	0.6%
Images and video processing technology	10.5%	15.6%	18.8%	49.8%	5.3%
Multimedia courseware production	22.6%	43%	23.2%	10.3%	0.9%
Aaudio processing technology	12.5%	16.8%	19.5%	40.9%	10.3%

4.3 Information ability of middle school English teachers

Information ability is the core content of information literacy, including the ability to use information tools, the ability to select and access information, and the ability to process and express information. This survey focused on the information technology use ability, information acquisition ability and information processing abilities of middle school English teachers. Different types of topics are set up in three dimensions to examine the information abilities of middle school English teachers.

(1) Ability to use information tools

The survey of the ability of middle school English teachers to use information tools is mainly based on the use of five software such as email, QQ, PowerPoint, Excel and Word/WPS. According to the statistics in Table 3, most middle school English teachers often use those five kinds of software, among which the percentage of Word/WPS often used is over 90% and no teachers never

use Word/WPS software, and more than 70% of teachers often use QQ, PowerPoint and Excel, about 20% of teachers occasionally use, only a small number of teachers never use. Compared with the five commonly used software, only 18.5% of middle school English teachers often use Photoshop or flash, 55.3% of teachers occasionally use, and 26.2% never use Photoshop or flash. After statistical analysis of spss data, it is found that middle school English teachers in Jiangxi Province have strong ability to common used information tools. Only a small number of teachers have never used QQ, PowerPoint, Excel and other common software information tools, most of these teachers are older, Their ability to accept new things, the ability to use information tools is weak. Because Photoshop or flash software is mainly used in image processing, the scope of use is more narrow than the other five software, only most teachers use it occasionally, and some teachers never use Photoshop or flash.

Table 3. Status of use of information tools by middle school English teachers

Categories	Often Used	Occasionally Used	Never use
Email	85.5%	14.5%	0
QQ	70.3%	27.5%	2.2%
PowerPoint	73.5%	25.3%	1.2%
Excel	71.5%	23.6%	4.9%
Word/WPS	92.1%	7.9%	0
Photoshop/flash	18.5%	55.3%	26.2%

(2) Information acquisition ability

The information acquisition ability of middle school English teachers is mainly evaluated from several aspects such as search engine, downloading graphic materials, forums or blogs, and professional databases, etc. From the data in Table 4, about 90% of middle school English teachers often use the engine to search and download online materials, every teachers will use the engine and download materials. 53.5% of teachers regularly use forums and blogs, 25.3% and 21.2% occasionally use and never use forums or blogs to get information. Different from search engine, downloading graphic materials, forums or blogs of obtaining information, only 9.8% of teachers often use professional databases to obtain data, 45.6% and 44.6% occasionally use and never use professional databases. From the above data, most middle school English teachers in Jiangxi Province often use the engine and download information from the Internet. About half of the teachers often use forums or blogs, but seldom teachers use professional databases, which reflects English teachers in Jiangxi Province have basic ability to obtain information, but there is a lack of capacity to use professional databases to access information.

Table 4. Information acquisition capabilities of middle school English teachers

Categories	Often Used	Occasionally Used	Never use
Search engine	96.5%	3.5%	0
Download online information	92.3%	7.7%	0
Forum or blog	53.5%	25.3%	21.2%
Professional database	9.8%	45.6%	44.6%

(3) The ability of middle school English teachers to process and process information

The ability of middle school English teachers to process information mainly means that after the teachers obtain the information, they process the information and apply it to classroom teaching. Through processing the network resources, middle school English teachers can conduct classroom teaching, demonstration examples, do exercises and test student learning level. By measuring these four aspects, we can get to know the ability of middle school English teachers to process information. According to the data in Table 5, 85.5% of middle school English teachers often use courseware teaching, 11.5% and 3% occasionally use and never use courseware teaching. Middle school English teachers have similar percentage trends in set examination papers and exercise questions. They often use network information more than 70% of teachers, and never use network

resources to set examination papers and exercise questions about 7% of teachers. 61.3% of teachers often use network resources for presentation examples, 20.7% occasionally used and 18% never used. From the above data, most middle school English teachers in Jiangxi Province have good information processing. They can process network information resources through classroom teaching, demonstrating examples, setting exercise questions and examination papers, but due to the limitation of the nature of the course, demonstrating examples are used less in the classroom, and most teachers use courseware for teaching.

Table 5. Ability of information processing for middle school English teachers

Categories	Often Used	Occasionally Used	Never use
Courseware teaching	85.5%	11.5%	3%
Demo example	61.3%	20.7%	18%
Set exercise questions	75.4%	20.5%	4.1%
set examination papers	71.3%	21.3%	7.4%

(4) Information ethics of middle school English teachers

In terms of information ethics, it is mainly evaluated through five aspects: whether the English teachers in the middle school use anti-virus software, whether to buy pirated books or CDs, whether to quote the source when citing other people's materials, whether to have conscious to spread the concept of information ethics and information security to students. According to the survey, 82.5% of middle school English teachers often use anti-virus software, and no teachers never use anti-virus software. 65.4% of teachers regularly buy pirated books or CDs, and only 14% of teachers have never bought pirated books or CDs. 53.2% of teachers often cited other sources to indicate the source, and 40.8% and 6% of teachers occasionally or never indicated the source. The difference between these three aspects is that only 35.6% of middle school English teachers often disseminate information moral knowledge to students. Most teachers occasionally or never disseminate information ethics and safety knowledge. It can be seen that the information ethics of middle school English teachers in Jiangxi Province is still at a medium level, especially in the transmission of information ethics and safety knowledge to students.

Table 6. Information ethics of middle school English teachers

Categories	Often	Occasionally	Never
use anti-virus software	82.5%	17.5%	0
buy pirated books or CDs	65.4%	20.6%	14%
spread the concept of information ethics and information security	35.6%	57.5%	6.7%
quote the source	53.2%	40.8%	6%

Through this questionnaire survey, we can see that (1) middle school English teachers in Jiangxi Province have a strong sense of using information technology, but their understanding of information awareness is not comprehensive enough; (2) common used information knowledge is well-known to Jiangxi middle school English teachers, but they don't know much about the use of some special software, and lack of balance of the information knowledge; (3) Middle school English teachers in Jiangxi Province have basic ability to obtain information, but still lack of ability to use some professional databases and special software; (4) The information ethics of middle school English teachers in Jiangxi Province is still at a medium level, but it still needs to be strengthened and improved in transmitting information ethics and safety knowledge to students.

5. Strategies of improving the information literacy of English teachers in middle schools in Jiangxi Province

In the information age, education informatization has become a trend of development. As a major participant in teaching activities, teachers should actively promote and improve the level of informatization to meet the needs of the development of the times. According to the statistics and analysis of the information literacy of middle school English teachers in Jiangxi Province, it is

known that the information literacy of middle school English teachers in Jiangxi Province should be studied mainly from internal factors and external factors-teacher and school.

5.1 Strengthen information awareness and enhance self-development consciousness

From the perspective of internal factors from teachers, the personal factors of teachers are the subjective factors and important factors that restrict the improvement of information literacy. With the development of the information age, the speed of knowledge update is getting faster and faster. The teaching method which relying on the knowledge of books can't meet the learning needs of contemporary college students. The role of teachers should be changed from leader to organizer and instructor and promoters. Therefore, teachers should establish the concept of lifelong learning, strengthen information awareness, enhance the awareness of improving information literacy, and actively promote themselves through various channels. First of all, middle school English teachers should make full use of online learning resources, continuously learn professional knowledge and education knowledge, update their knowledge structure and improve their professional quality. Secondly, they can learn information technology and educational technology through online courses, use the network platform to communicate with experts and peers, improve their information technology and educational technology, and improve their information literacy. Finally, teachers can integrate information technology and subject knowledge, apply information technology to the teaching of subject knowledge, change the traditional teaching mode, promote the development of educational information, and enhance the information literacy of teachers.

5.2 Strengthening the construction of information infrastructure

The school's information infrastructure construction is a prerequisite for the implementation of modern teaching of middle school English teachers and helping teachers have good information literacy. Through the second part of the questionnaire, about 75% of the classrooms have multimedia and computers, while the campus network, electronic reading room and e-learning database have not yet been built. Therefore, in order to speed up the construction of educational information and improve the teaching conditions of information technology, schools should increase the construction of information infrastructure, allocate corresponding modern teaching facilities, build campus networks, electronic reading rooms, e-learning databases, and purchase necessary teaching software and teaching materials. For the existing multimedia classrooms and computers, we must actively use and improve the utilization rate, meet the classroom use of information resources, improve the information literacy of middle school English teachers, and promote the development of educational information.

5.3 Strengthening information training for middle school English teachers

In order to improve the information literacy of middle school English teachers, schools should strengthen information-based training. Training should develop reasonable goals, content and methods. Different teachers have different needs for information-based teaching. According to the survey data, the information training content of middle-school English teachers is mainly based on practical content. It can be divided into two types, one is the basic skills training of computer and network applications, such as software installation, multimedia operations, etc.; another is the use of computer software, including software such as PowerPoint, Photoshop, flash, audio and video file editing. Training methods can be used both on-campus and off-campus. On the one hand, off-campus training can adopt the method that send some teachers to receive off-campus training through the school. After they have mastered the skills and knowledge, they can guide the teachers whom haven't accept the training through lectures or tutoring in the school. On the other hand, young teachers and old teachers form a one-on-one mutual help and mutual assistance model, they guides and trains each other, which is beneficial to infiltrating the training into the actual teaching activities and teaching process of teachers. In the training method, we must also pay attention to the combination of in-class and extra-curricular. In the calss, encourage middle school English teachers to use multimedia and computer for teaching; Out of class, guide middle school English teachers to self-study and make courseware, actively use network information to process resources, and

improve the information literacy of middle school English teachers.

5.4 Establishes and improves the evaluation system of middle school English teachers' information literacy

In the information age, schools cannot use the test scores and progression rates of students as the only criterion for evaluating English teachers in middle schools. The evaluation criteria have the function of guiding, stimulating, regulating and evaluating the behavior of middle school English teachers. According to the requirements of national education informatization, schools should establish and improve the evaluation criteria of middle school English teachers' information literacy, and provide policy guidance and standardized management for the information literacy of middle school English teachers. The content of standards should be related to information awareness, information knowledge, information ability and information ethics, etc.,. In addition, schools should combine information literacy requirements with evaluation criteria, performance appraisal, job evaluation, etc, to promote the improvement of information literacy of middle school English teachers. Middle school English teachers can also find out their own deficiencies and weaknesses in information literacy according to the standards, set up specific goals, with purpose to participate in modern information technology learning and training, and constantly improving their information literacy.

6. Conclusion

In the information age, middle school English teachers, as the main body of participation in basic education, should continuously improve information literacy to adapt to the development of the times and teaching needs. Therefore, according to the analysis of the information status of the 12 middle school English teachers in Jiangxi Province, we should firstly strengthen the teacher's information consciousness from the subjective factors of teachers, for example, enhance the self-development consciousness, and establish the concept of teachers' lifelong learning. Secondly, from the perspective of schools, we will strengthen the construction of information infrastructure, strengthen the information training for middle school English teachers, and establish and improve the evaluation system for middle school English teachers' information literacy.

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