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Prof. Dr. Thomas Köhler  
Prof. Dr. Nina Kahnwald  
Prof. Dr. Eric Schoop  
(Hrsg.)



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## 4 A Survey of Teachers' Media Literacy in Chinese Vocational Schools

Xiaohan Zhang<sup>1</sup>, Jörg Neumann<sup>1</sup>, Thomas Köhler<sup>2</sup>

<sup>1</sup> Dresden University of Technology, Media Center

<sup>2</sup> Dresden University of Technology, Faculty of Education / Institute for Vocational Education / Educational Technology Chair

### Introduction

*Media in the context of education, especially new media like Web 2.0, has attracted the public's attention for more than a decade now. Trendsetting research and publications have been carried out and published in this field and so it remains a popular topic nowadays. This paper focusses on the descriptions of media-pedagogic activities and attitudes of Chinese teachers in vocational education schools. Therefore, the research methodology and main findings of the empirical study, which involved questionnaires at Chinese vocational schools, will be presented.*

### 1 A brief introduction of teachers' media literacy

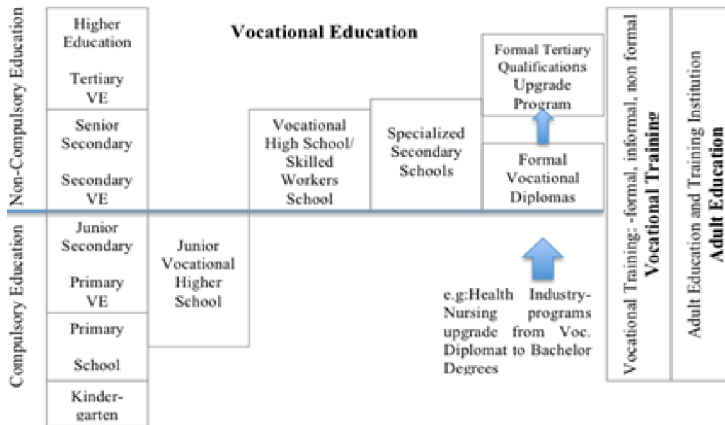
When reading the term “media literacy”, one might assume it simply refers to one's ability to use media such as TVs, computers, and other devices; to use media within our daily lives. However, it means even more. Media literacy is a bulky and complex concept, which has different meanings for different people, such as scientists, educators, various skilled workers, as well as for the general public. James Potter summarised numerous definitions of media literacy by seven so-called ‘Scholars’ and 16 ‘Citizen Action Groups’ in the last two decades (Potter, 2010, p676–678). However, what we are concerned with is that there is no significant difference in the main meaning of media literacy from the different perspectives. As professionals, teachers have their own occupational characteristics. (Li & He, 2011, p21–22). The purpose of media literacy education in schools today is defined by NAMLE (National Association for Media Literacy Education) as: “to help students develop the habits of inquiry and skills of expression they need to be critical thinkers, effective communicators and active citizens in today's world.” (Scheibe, 2008) Obviously the main missions of teachers are teaching and educating; requirements which can be met if they are media competent. In order to adapt the reform of the teaching environment and teaching methods and to use the existing media equipment to facilitate their teaching, it is more important for teachers to be able to impart media literacy knowledge and skills to their students. Tulodziecki summarised the training goals of the teachers' media literacy. He claimed that the tasks regarding “knowledge, skills and abilities” should be included: (1) Owning the foundational knowledge and ability to use media; (2)

Paying attention to the cognitive and emotional aspects of media and IT for children and young people; (3) Usage of media and IT as tools for teaching and learning; (4) Awareness of educational tasks to media questions in the sense of media education and IT; (5) Use media and IT to administrate and organise the teaching activities; (6) Assistance in the development and implementation of media education in their own schools. (Gysbers 2008, pp. 30–41). This content outlines not only the training goals of teachers' media literacy, they also discuss what kinds of media literacy should be mastered by the teachers. To improve the media literacy of young people is the primary goal and the start to enhance the teachers' media literacy and implement media literacy education in schools.

The Chinese government has attached great value to the development of vocational education and training for some time now. It is also an important element of economic, social and education policies to support vocational training for long-term development. Vocational education and training play an important role in the Chinese education system, in which teachers are the main factor to promote vocational education. This paper aims to investigate media literacy of Chinese teachers in vocational schools, and analyse the problems of media literacy education in schools, in order to push forward specific development strategies.

## **2 A brief introduction of the Chinese vocational education system**

As one of the largest countries in the world, China has a complex educational and vocational system. Vocational education, as a key component of Chinese educational system, is multi-faceted and refers to technical education and skills training provided by pre-employment programs, job transfer programs, apprentice programs, on-the-job programs and various certificate programs (Yan, 2010). Chinese vocational education is mainly conducted and managed by the Ministry of Education (MOE) and the Ministry of Human Resource and Social Security (MHRSS). Depending on the current situation, the system of vocational education consists of education in vocational schools and vocational training, which is generally provided at three levels: junior secondary, senior secondary, and tertiary. In each category there are a variety of school types. See the figure below:



**Figure 1. Chinese Vocational Education and Training System**  
(Source: Simmons & Polgar, 2006, p.15)

Vocational education in China should be carried out by relevant vocational institutes and schools. Other schools and institutes develop different forms of vocational training depending on the actual situation.

### 3 Purpose of the study

The mentioned “Vocational education” in this research refers to vocational school education, in which training systems are not included. The purpose of this study is to research and analyse at first the current situations and potential problems of media literacy of the teachers in Chinese vocational education and, second, the school conditions of media and media education. This study describes and analyses the media usage of teachers both in schools and in their private lives, teaching media and media topics of teachers, the media and IT devices in school, the difficulties of carrying out media education and training programs and so on. Through statistic analysis, the study aims to determine the factors that affect media literacy of teachers in Chinese vocational education.

## **4 Research question**

Based on the purpose of the study presented above, the main research question of this review should be summarised as the following: Which factors affect the media literacy of teachers in Chinese vocational education? The main research question reveals the goals and the guidance of the whole research. According to the research question above, a questionnaire was developed and implemented, as presented in the next part.

## **5 Research procedure and data analyses**

### **5.1 Research methods—Questionnaire**

#### **5.1.1 Questionnaire design and selection of the teachers**

In this study, a questionnaire and some interviews have been carried out based on the literature study. The questionnaire was partly based on the inventory for computer literacy (INCOBI-R, Richter et al., 2010). In order to make the questionnaire more scientific and feasible, according to the content of this research, this questionnaire was formed as “Media literacy of teachers in Chinese vocational schools” based on questionnaires implemented previously both in China and Germany. Respondents of this study mainly came from the training projects organised by the Chinese Ministry of Education, which were from different regions to make sure that the balance of the survey is reflected.

This questionnaire consisted of three main parts, namely “Instruction, Background Information, and Subjects”, in which the third part “Subject” was divided into another five parts. In the first part, the concept of media literacy was briefly introduced. The second part is the Demographic Descriptive Statistics, in which the teachers’ basic information concerning “gender, age, educational background, and teaching experience” etc. were collected. By comparing this part with the subjects in the questionnaire, the statistical relationship between “gender, age, educational background, and teaching experience” and the media literacy of teachers will be analysed. The third part, which is the main part of the whole questionnaire, included the following: basic knowledge as well as the understanding about media and media literacy; usage of media in their teaching and classes; the views and perspectives concerning the influence of media on the students; media pedagogic activities and current situations of media education (media literacy education) in schools; and lastly, media and media literacy related teacher training. These five parts contained 39 main questions, which include the comprehensive content of media literacy that teachers as professionals should have as well as the media use of teachers as individuals.

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### **5.1.2 Overview of the sample**

In this survey, 130 questionnaires were sent out and 124 copies were successfully returned, while 115 valid copies were answered completely. 9 copies were not fully answered and excluded, so the response-rate was 88.4%. The participants were all from different vocational schools in 25 provinces of China, in which 68.7% of them were men and 31.3% were women. Meanwhile, they came from different school types, for example public and private vocational schools with different academic backgrounds. Some of the participants were new in this field, while there were also some who were well-experienced. After the questionnaire, six teachers from vocational schools were interviewed.

### **5.1.3 Reliability and validity of the questionnaire**

Based on the characteristics of Chinese vocational education, this questionnaire was developed with reference to the previous questionnaires from both China and German, which had already been successfully sent. (Germany: Questionnaire of IJK; Chinese: Questionnaire of study on media literacy of teachers in elementary and middle schools; Questionnaire of the study on media literacy of students in universities in Nanjing and Shanghai; Questionnaire of the study on media literacy of students in Universities nationwide, etc.) (Gysbers, 2008, p232-239; Yuan, 2009, p68-71). After some suggestions from teachers who have extensive experience with writing, one questionnaire was adopted to make the expressions more fluent and easy to understand. All of these steps ensured the higher effectiveness of this questionnaire. With the SPSS tool, the reliability coefficients of the 115 valid questionnaires were examined with the reliability test methods, resulting in a 0.872, which indicated that the questionnaire had a high reliability.

## **5.2 Findings of Data Analysis**

### **5.2.1 Demographic Descriptive Analysis**

Since the participants were from different age groups, different school types, different academic backgrounds, as well as seniorities (See “overview of the sample”), it is necessary to analyse whether there are differences among these aspects in teachers’ media literacy. With the T-Test, One-way ANOVA-Test, the results were quite clear.

**Table 1: P-Value of the demographic descriptive analysis**

	P-Value (Sig.)				
	Gender	Age	Academic Background	Learned Major	Seniority
Media use in class	.720	.825	.395	.522	.333
Awareness and understanding of media literacy and education	.197	.371	.424	.288	.706
Personal media use	.095	.744	.822	.371	.292
Media related knowledge, skills and competence	.592	.312	.651	.092	.037
Media pedagogic activities	.106	.230	.430	.385	.908

From a statistical point of view, it is important to say that when the P-Value (Sig. value) is smaller than 0.05 (0.01), we judge that the test is not significant, while if the P-Value is bigger than 0.05 (0.01) the test seems to be significant at the level 0.05 (0.01). According to the data above, all the P-Values are bigger than 0.05, except the P-Value between “Seniority and Media related knowledge, skills and competence” obviously. Therefore, we could draw the conclusion that “Gender, Age, Academic Background, Learned Major and Work Experience” of the teachers make no difference in the variables “Media use in class”; “Awareness and understanding of media literacy and media education”; “Personal usage of media”; “Media related knowledge, skills and competence”; and “Media pedagogic activities”, except that teachers own various “Media related knowledge, skills and competence” with different work experience. Referring to this conclusion, there is no need to be concerned with the aspects of demographic variables factors.

### 5.2.2 Media und Media literacy related knowledge and skills

Although media has a long history, media literacy as a new topic for teachers is still relatively unfamiliar. 16.8% of the participants answered the question “What do you think about the phrase ‘Media literacy?’” as “Have no idea”, while 48.7% of them held the view that they only have a vague understanding of the concept. Only 5.3% of participants considered that they have a good knowledge and understanding about “media literacy”, which was also proved by the interviews. Some teachers even mentioned that it was their first time to hear the phrase “media literacy”. When asked “What is media literacy? What are the contents of media literacy?”, most teachers answered with the simple and obvious understanding based on common sense.



The survey told us that *more than half* of the participants held an *uncertain attitude* of the “basic concepts, objectives, contents, curriculum and teaching methods of media literacy education”. Some teachers in the interview mentioned that they would be able to use the media to help their class and work, however, the lack of theoretical knowledge is the main issue of the teachers which suggests that the gap between theory and practice concerning media literacy education is more serious. The media-related knowledge and understanding that the teachers gained through self-learning and training are unordered and require systematic guidance and deepening.

The following data details the ways the teachers obtained their media knowledge and skills. On the one hand, the teachers learned and improved their media literacy more through self-learning outside of the school study, while less was gained through the training within the school study. On the other hand, some teachers still take a strong interest in learning “media”. It is shown that neither the school education nor the teacher training is able to provide the sufficient “media literacy” for teachers to meet the requirements of teaching media literacy.

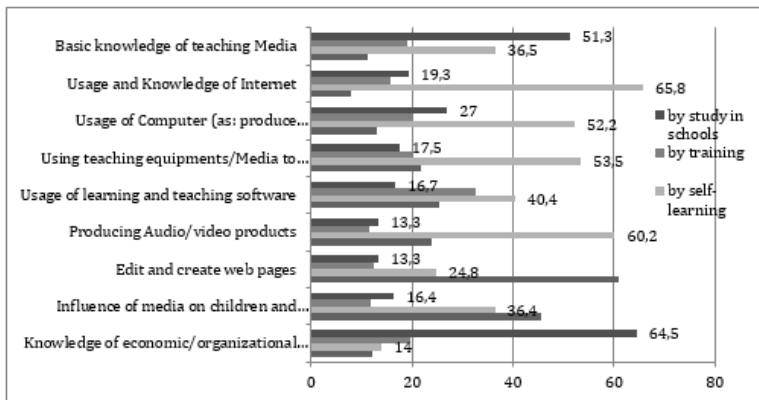


Figure 2: The channels to obtain the media knowledge and skills (in %)

The survey data also provided positive messages, for example that most teachers could facilitate their teaching with various media. More concretely, 62.3% of the respondents suggested that they could use a variety of media to solve problems successfully when faced with the lack of certain teaching resources, while 60.2% of them agreed that the information gathering and retrieval skills they possess could somewhat satisfy the needs of their work and teaching. However, the knowledge and competences which they have learned through self-learning or training are

insufficient to facilitate the teachers' further individual development. About 40% of the participants commented negatively on the statements "I often express my views and opinions with a variety of media" and "I always analyse the authenticity of the media from various angles". Obviously, this data suggests that although the teachers have mastered a wealth of media-related knowledge and skills, guidance is necessary for the promotion and long-term development of teachers.

How does "Media and IT-related knowledge and skills" of the teachers affect their "Media pedagogic activities", namely teaching media and media literacy in class? Is there any relationship between these two variables? Logically one might assume that if the teachers possess more knowledge and skills, they would perform better in "Implementation of media education". Fortunately, we gained data which has proven this hypothesis. From the bivariate correlation test, with a P-value = 0.017 ( $< 0.05$ ), which indicated the correlation of these two variables as significant at the level 0.05 (2-tailed). With this correlation result, the linear regression could be used to test if the independent variable affects the dependent variable as well as how to evaluate this result. See below:

**Table 2: Correlation of the variables "Media pedagogic activities" and "Media and IT-related knowledge and skills"**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1,383	,373		3,707	,000
Media and IT related knowledge and skills	,433	,178	,247	2,434	,017

a. Dependent Variable: Media pedagogic activities

From the data above, with "Media pedagogic activities" as the dependent variable and the "Media and IT-related knowledge and skills" as the independent variable in order to detect the impact of "Media and IT-related knowledge and skills" on "Media pedagogic activities", we got a P-value (0.017) less than 0.05, while the standardised coefficients value was positive. These values indicate that "Media and IT-related knowledge and skills" of teachers had a positive impact on their "Media pedagogic activities", namely when teachers obtain a wealth of media knowledge, skills and competence, they will implement more media pedagogic programs and projects to improve students' media literacy.

### **5.2.3 The media usage of teachers**

With the emergence and development of new media, traditional media are falling out of favour gradually. However, the media mentioned in “media literacy” should be all media forms, including traditional print media such as books, newspapers, magazines, as well as new media, such as social networks and digital technologies. A growing number of new media such as computers and networks are used in class. 98.3% of the participants selected computers and networks as the most frequently used media in their lives and work, as well as 70.4% of them using the media due to operational requirements. Thus, compared with entertainment use, teachers preferred the usefulness of media. Based on this usage status, about three quarters of the teachers expected to obtain relevant knowledge and information concerning teaching from the media. The first medium that teachers most frequently used in class is computers, while the following second and third media are projectors and network.

Many teachers also responded regarding the difficulties of using media and IT equipment in class. From the survey the six main factors were frequently encountered issues when using media and IT in class. Almost two-thirds of the participants pointed out that they could not get necessary support from their schools, on the one hand, while on the other hand, the “lack of didactic concepts and theories” plays an important role in the media use in teaching. At the third and the fourth place were “some media equipment and technologies cannot be used in the classroom directly” (47%) and “the preparation wastes time” (46.1%). Another 45.2% of the participants agreed with the situation that “some equipment is outdated or defective”. These statistics lead to the conclusion that in addition to the didactic concepts, a variety of teaching equipment, namely the media and IT equipment, was not being fully supplied to support and promote the media literacy education. Sufficient access to teaching media equipment is the primary condition to guarantee the implementation of media literacy education smoothly; only with the available adequate media equipment can the schools organise media literacy education successfully.

### **5.2.4 The effects of media on the students**

Students and young people get in touch with digital media and social networks earlier and earlier, such as computers and smartphones. This is positive, because it is not always about entertainment and pastimes, students also learn more flexibly through the media directly. Schools profit equally from the new media. Schools could provide valuable training and skills related to communication and information gathering, which are also essential in later life. However, the new media bring a variety of dangers to the young people alongside the benefits, for instance cyber mobbing, data abuse, and other criminal activities as well as the excessive use and dependency on media and social networks, which all show negative effects on the physical and

mental development of young people. To counteract those negative effects, the students should obtain a full education or training to improve their responsibility and awareness of risk by dealing with media early on. What are the influences of media on students according to the teachers? As one of the two roles of teaching and learning, it will benefit the teaching plans when we know the media effects on students well from the teachers' perspectives. The question "What do you think about the effects of media on your students?" was also asked in the interview. Almost all the teachers emphasised the negative impacts more.

*"My students are different from the students several years ago. The students were more lively in and beyond the classroom, they preferred to go outside and play together. Now the situation has changed. Students nowadays spend more and more time on smartphones and computers, they are much too concerned with online games and prefer to be alone and communicate less with each other." (Answer from one teacher of a secondary vocational school)*

Some students even grasp the media knowledge and skills better than their teachers. They can handle the new media very well. However, not all the teachers agreed with the opinions "Students learn more useful things through the media". Also more than half of them did not have much of an overview regarding media usage preferences their students have. The media education in schools could play a role to ensure the students' development in the IT (knowledge) society, an argument that 44% of the participants confirmed, while more than 70% considered that media education should be implemented as a compulsory course in vocational schools.

### **5.2.5 Media pedagogic activities of the teachers**

Teachers are the main force to implement media literacy education in schools. It is a challenge for teachers to integrate the content of media literacy in class, which calls for higher requirements from them. The data suggests that about half of the teachers would prefer to teach their students media knowledge and skills through their teaching, such as the techniques and methods of collecting and processing information, as well as creating simple media products; however, more than half have not or barely involve "awareness and ability to understand, thinking and appreciate the media content from an artistic point of view", "ability to express themselves during exposure to the media", "abilities to infer the values underlying the messages" etc. in their class. Concerning the question "I am clear about how to teach 'media literacy' to my students", 54.4% of the participants chose "Not Sure", while only 16.7% and 0% of them chose the "Agree" and "Strongly Agree" options, respectively, which adequately reflected the fact that the majority of teachers possess knowledge

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and skills concerning the media, however, they had not made conscious efforts to integrate the content of media literacy education in class. Generally the participants gave a positive response that media literacy plays an increasing role in teachers' individual and professional development. Meanwhile, 72.2% of the participants agreed that "The level of teachers' media literacy will impact the media literacy of the students, i.e. there is a positive relationship between the teacher's and students' media literacy." 73% of them took the opinion that "media literacy is an important, indispensable part of a teacher's professional quality". Thus, it can be seen that the importance of teachers' media literacy levels have been recognized by teachers, and they have urgent demands to improve their own media literacy.

### **5.2.6 Media education in schools**

Beyond the teachers' individual factors, we should not ignore the external factors that affect the teachers' media literacy and the implementation of media education in schools. All the work of teachers and teaching activities cannot be separated from the schools. Therefore, the school's atmosphere as well as the support policies, such as media devices, will affect the media abilities of teachers. According to the data, 46.1% of participants considered that the field of media and IT is particularly promoted by their school. However, there is no significant discussion among teachers about the topic "Media and IT" (51.3%). In addition, teachers themselves do not have enough confidence in their own media knowledge and skills (56.3%). 60.9% of them have never participated in developing a media profile in their schools. The importance of a school's support and atmosphere has also been proven, both through the questionnaire and the interviews. Less than 70% of the participants affirmed the existence of campus magazines, radio or associated community organisations in their schools, yet about 30% of did not affirm as they chose about that issue "No" or "Uncertain". Regarding the question "How do you communicate with your colleagues usually", nearly half of the participants preferred "Face to Face", while only 11.3% and 5.2% of them chose "Email" and "Telephone", respectively.

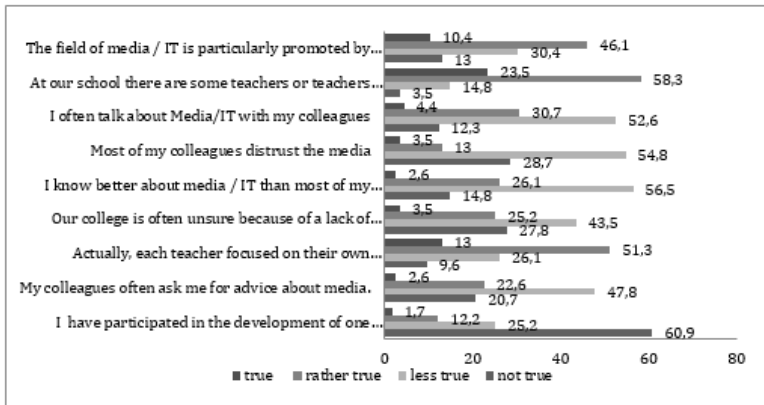


Figure 3: Media and IT in schools and departments

### 5.2.7 Training of the teachers' Media literacy

Teacher training is considered as an important way to promote teachers' individual and professional qualities. Trainings covering media literacy have not been carried out sufficiently. About 40% of the participants have not participated in any media literacy training yet, while 51.3% of them participated in this kind of training just a few times, and a further 8% suggested "many times". While the data was not overly optimistic, most teachers did, however, show a high interest in media training. With a number of 56%, most teachers confirmed a necessity for media training of teachers in vocational schools, which showed that they have expectations about media literacy education and are looking forward to improving their own media abilities and skills. 68.4% tended to take the "regularly organised training", while 51.3% of them preferred training which would be organised together with other training programs. Some training content that the teachers showed interest in are as follows: "Teaching media literacy" (80.9%); "Processing and producing media messages" (74.8%); "Obtaining and using media messages" (61.7%). Meanwhile, teachers shared their suggestions and comments in order to implement the training successfully. 76.1% of them considered "Practical relevance to my field" as the most important issue. Other important aspects that should be focussed on include the following: training programs should be valuable (56.6%), should be long-term programs (51.3%), and training programs should be short and compact (50.4%). This data suggests that media literacy training nowadays is still in its preliminary stages, while teachers strongly desire opportunities to enhance their media skills and abilities. Accordingly, it is imperative to establish specialised agencies for media literacy education and to implement media training for teachers.

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## 6 Analysis of the relationship between variables

Although the frequency of the statistics described above could lead us to intuitive conclusions, we could not easily measure and investigate the variable relationship directly by collapsing a large number of variables. According to the purpose of this paper (see sections 4 and 5: Research purpose and questions, above), all the variables in the questionnaire that had similar patterns of responses were classified as the following components: 1, Usage of media and IT in class; 2, Awareness and understanding of media literacy and education; 3, Media-related knowledge and skills; 4, Media and media education in school; 5, Teacher training in this area; and 6, Media pedagogic activities. How can the relationships between these components be measured? Does the media and IT equipment affect the usage of media and IT of teachers in class? Does wider and deeper teacher media knowledge and skill lead to better media pedagogic activities? Which aspects determine teachers' media pedagogic activities in school? To solve such questions, correlation and regression analyses were applied in the SPSS tool.

### 6.1 “Media and media education in school”

“Media and media education in school” in this research refers to: first, the media and IT devices in schools; second, the school policies supporting media education; and third, the media climate between colleagues. From the bivariate correlation test we got a P-value = 0.03 ( $< 0.05$ ) with positive coefficients, which indicates that the better the “Media and media education in school”, the more media and IT devices teachers use in class. Adopting the same method, with “Media and media education in school” as the independent variable and “Media pedagogic activities” as the dependent variable, we got a P-value = 0.001 ( $< 0.01$ ). This result leads to the conclusion that the relationship between those two variables are positive, which means that when the school conditions are favourable, the teachers were able to carry out media literacy teaching and activities well.

### 6.2 Media pedagogic activities

Utilising the same measure and analysis method as part a) above, we measured the P-value between every independent variable and the dependent variable. The results showed all the P-values were smaller than 0.05, except for the second line “Awareness and understanding of media literacy and education”, which indicated that the independent variables “Usage of media and IT in class”, “Media related knowledge and skills”, and “Teacher training in this area” significantly and positively impact the dependent variable “Media pedagogic activities”. For more information see below:

**Table 3: P-values of the different independent variables and the dependent variable “Media pedagogic activities”**

		Coefficients <sup>a</sup>				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6,845	2,410		-2,840	,006
	Usage of media and IT in class	,405	,168	,244	2,410	,018
	Awareness and understanding of Media literacy and Education	,072	,132	,058	,544	,588
	Media competence (media knowledge and skills )	,379	,176	,217	2,151	,034
	Teacher training in this area	,431	,135	,339	3,192	,002

a. Dependent Variable: Media pedagogic activities

## 7 Conclusion

The statistics presented above lead to the conclusion that the media literacy of teachers in Chinese vocational education is not as good as many believe. On the one hand, most teachers possess deep basic knowledge and skills related to media, such as using various types of media, selecting the appropriate media products, ability to analyse and interpret the media messages, etc. On the other hand, the media has also been widely used in teaching and in the teachers' individual lives. However, some problems exist and can be classified into two main aspects. The internal factor: most teachers lack the media educational abilities and skills. There is inadequate attention on media education by teachers, specifically by the schools, due to the shortage of didactic concepts, curricula, content, and teaching programs, as well as the implementation methods in class. The external factor: i.e., the outside conditions, particularly the schools (media and IT devices and support policies) and the departments (colleagues) beyond the individual teachers. The schools have not provided sufficient support for the development of teachers' media literacy and the implementation of media education, such as insufficient access to media equipment and effective training programs. The colleagues are concerned more about their own teaching instead of exchanging experiences and discussions about media teaching with others. In consideration of these summaries, the idea to promote teacher education in media literacy should be transformed to an agenda. Hobbs examined the various approaches which are used in formal and informal learning environments including “Self-taught”, “Staff development training”, “Curriculum-based approaches”, “Mentoring and partnerships”, and “University coursework”. It is typical for media literacy programs to rely on the enthusiasm of the individual teacher who may teach it as a side subject (Hobbs, 2007). The implementation of education for media literacy of teachers, both from general and vocational education, in China is now sporadic. Concrete strategies



such as “developing the media courses for teachers in the universities and colleges”, “establishing specialised training centres and training institutes”, “collecting expert groups to develop concepts and curriculum of teaching media literacy”, “setting online evaluation systems for teacher self-testing and a system of awards and penalties to motivate teachers”, “updating the devices and developing support policies from the school side”, etc. should be developed by considering the specific Chinese situation. So both the promotion of the teacher media literacy and the implementation of media literacy education in schools will be a long-term process whose achievement requires the support from all of the community.

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