The Investigation and Analysis on the Media Literacy of Students in Science and Engineering Universities*

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Abstract—As the world has entered the Internet information era of globalization, the continuous update of media technology, the rapid development of mass media and the huge influence generated are unprecedented. This paper conducts a survey on students from three science and engineering universities in Chengdu, mainly focusing on their media consumption behavior, media literacy cognition, media critical ability, and media active participation. The survey results show that the media consumption ability of students of science and engineering universities in Chengdu is relatively strong, among which the degree of dependence on mobile phone network is quite high, and the activity degree in social network is high. Although most students have the consciousness of media criticism, they have the problems of inability to analyze news events in depth, weak independent thinking, vague cognition of media literacy, and weak media application ability, etc.

Keywords—science and engineering universities; college student; media literacy; media literacy education

I. INTRODUCTION

According to "The 39th China Statistical Report on Internet Development", by December 2016, the number of Internet users in China had reached 7.31 billion, with a total of 42.99 million new Internet users. In the occupational structure of Chinese Internet users, students account for the largest proportion, accounting for 25% of the total number, while Internet users aged 20-29 years old account for the largest proportion in the age structure of Chinese Internet users. China's media literacy education started late. In October 2004, the first international symposium on media literacy education in China, with the theme of "media literacy education in the information society", was held in Communication University of China. Up to now, only a dozen comprehensive universities, such as Shanghai Jiao Tong University, Shandong University, Anhui University and Yangtze University, have offered courses on media literacy education, while relevant data of media literacy courses in domestic science and engineering universities are hard to find on CNKI. According to the interview, there are even fewer courses about media literacy education. According to the research literature, surveys and researches on media literacy in the western region are relatively fewer than that in the eastern coastal region. Therefore, the author investigated and analyzed the media literacy of college students in three science and engineering universities in Chengdu.

II. THE CONNOTATION OF MEDIA LITERACY AND MEDIA LITERACY EDUCATION OF COLLEGE STUDENTS

College students' media literacy refers to their ability to choose, understand, question, evaluate, create, produce and respond to all kinds of media information. To be specific, college students should have general basic knowledge and skills about media, be able to take the initiative to obtain the required information, to choose the media that gives them the most convenient access to information at a given time, to fully understand the intention of media information disseminators when receiving specific information and have some critical thinking on certain media information, etc. Media literacy education is a process and media literacy is the result. Media literacy education often uses an inquiry-based teaching model that encourages people to ask questions about what they see, hear and read. Media literacy education provides tools to help people critically analyze information, provides opportunities for learners to broaden their media experience, and helps them develop creative skills to create their own media information.

III. RESEARCH STATUS IN CHINA AND FOREIGN COUNTRIES

The origin of media literacy education can be traced back to Britain in the 1930s. In the early stage, the main idea of media education was to focus on the negative effects of media culture on young people from the perspective of "protectionism". In 1933, F. R. Leavis, a British scholar, proposed the issue of media literacy education from the perspective of culture and put forward the issue of media literacy education. He argued that "the primary task of intellectuals is to maintain cultural continuity" because "the proliferation of popular cultural products has almost disrupted civilization — the ways of thinking and feeling that culture values". He once put forward a complete set of suggestions, "striving to protect students from the negative influence of bad culture, moral concept or ideology transmitted by the media through media literacy education".

In 1978, the formation of the Association for Media Literacy (AML) in Ontario, Canada, was considered a landmark start for media literacy education in North America.

MarshallMcLuhan, a Canadian communications scholar, ignited the media education movement in North America in the 1950s and 1960s. In the 1980s, Australian academics Robyn Quin and Barrie MacMahon wrote groundbreaking textbooks which were like real images that translated many complex media theories into frameworks suitable for classroom learning. In 1997, Modern Media" published the paper "Study on the Significance, Content and Methods of Media Education" by Bu Wei, an associate researcher of Chinese Academy of Social Sciences, which kicked off the research on media literacy education in mainland China. In 2002, the Communication University of China established the Academy of Media and Public Affairs. From 2004 to 2010, the number of literatures increased steadily. Since 2010, the research on college students' media literacy in China has increased greatly. By July 2017, a total of 1,724 articles were found by searching "college students' media literacy" on CNKI, most of which were comprehensive studies on college students' media literacy education in China. On the whole, although the number of studies on college students' media literacy in China has increased, there are still some problems, such as relatively broad research content, repetitive research and relatively single research methods. However, the characteristics of researches China lie in its integration with ideological and political education. Many scholars have obtained corresponding results by integrating media literacy education with ideological and political education.

IV. Results of the Media Literacy Survey of College Students: Based on the Survey of Students from Three Science and Engineering Universities in Chengdu

A. Research Method

In order to understand the media literacy of science and engineering students in Chengdu, during the three months from May to July 2017, the author conducted a survey on students from University Of Electronic Science And Technology Of China, Southwest Jiaotong University and Chengdu University of Technology through online questionnaires and face-to-face interviews. A total of 290 questionnaires were issued and 269 valid questionnaires were recovered, accounting for 92.7% of the total. The survey objects include undergraduate students, master students and doctoral students, among which female students account for 34.57% and male students account for 65.43%. Most of them major in engineering and science in the field of electronic information. This paper mainly conducts analysis of college students' media consumption behavior, media literacy cognition and critical ability, and media application and development capability.

B. Research Findings

1) Analysis of media consumption behavior:

In the sequencing question of "media you are most frequently exposed to", the choice of "mobile phone" beat "computer" to become the most frequently exposed medium among college students. "Computer" came in the second place, while traditional media like broadcasting and newspapers were selected by college students as the media

they had the least exposure to. It indicates that new media has become the carrier with the most media consumption among college students.

In another question of "how much time do you spend surfing the Internet with your mobile phone every day", 36.43% of the respondents chose 1 ~ 3h, 35.32% chose 3 ~ 6h, 26.77% chose more than 6h, and only 1.49% chose less than 1h. This indicates that college students are highly dependent on mobile phones, and the popularity of smart phones and the prosperity of new media apps have great appeal to college students.

In terms of the online media consumption motivation, respondents chose "using QQ, WeChat and other chatting software for communication" as the most popular choice, followed by "using search software for information" and "browsing Sina, Tencent, Sohu, Zhihu and other major information platforms for news consultation" as the third most popular choice.

The most frequently used social apps by students of science and engineering universities in Chengdu are QQ, WeChat, Weibo and Zhihu. The functions of these four social networks are obviously different. QQ and WeChat, as instant messaging software, are the most frequently used among students of science and engineering universities. The top three are similar to the top three of "The 39th China Statistical Report on Internet Development" of CNNIC's. But it is already worth noting that Zhihu, as a question-oriented online question-and-answer platform, ranked fourth among the social applications most frequently used by students of science and engineering universities in Chengdu, while douban, as a social community oriented by book, video and other interests, which can be said to be a network extension community for book, video and other relative traditional print media, ranked quite low. This result is very interesting, indicating that compared with the community of interest based on traditional media such as book, video and audio, college students in science and engineering universities prefer to have a focused and direct discussion on a topic they are interested in.

2) Analysis of media critical ability:

Through the investigation, it is found that current college students already have a certain awareness of media criticism, but their media criticism ability in dealing with specific events still needs to be improved. Most students do not think deeply and actively about news events reported by the media. When asked "how do you judge the authenticity of news consultation", 54.28% of the respondents chose to "make comparisons and judge by themselves", 33.46% chose to "search the announcement of the news on official websites", 8.55% chose to "believe report on mainstream media", and 3.72% chose to accept "the direction of public comments". However, it is also found that about 72.45% of the students believed that the reports of hot social news events such as "the talented girl from Peking University returned to her hometown to start her own business in express industry" were very consistent with the facts, while only 12.3% of the students questioned. During the interview, the author also found that students' independent thinking ability was poor in

the face of complicated media information. Only 23.2% of the students said that they could judge the truth of hot social news such as "Luo Er Incident" by their own knowledge, and thought about the events independently, while nearly 60% of the students chose "they would not or probably not readily believe the opinions of various media."

3) Cognition of media literacy:

During the interview, it was found that more than half of the students did not know about media literacy education, and most of the students did not take media-related courses in school. According to the data from the questionnaire, 56.13% of the students are not clear about the meaning of "media literacy", 23.43% of the students "have heard of it, but are not clear about it", 13.74% of the students generally know what it means, and only 6.69% of the students know it very well. It can be seen from this that the curriculum setting of students' media literacy in science and engineering universities in China is relatively lacking, and the related publicity is also relatively low, resulting in students' less media exposure and relatively vague cognition of media literacy. Students' cognition of their level of media literacy can be seen from the data: 1.81% of students think their level of media literacy is "excellent", 21.79% think it is "high", 48.40**%** chose "general", 22. 71% think it is "relatively low" and 5.29% "very low". It indicates that the university students of science and engineering universities have certain medium cultivation, but there are still a lot of rooms for improvement.

4) Analysis of media usage and development capabilities:

According to a survey of 25 media literacy education experts in 10 countries by Russian scholar professor Alexander Fedorov, in addition to "making sure people know how to analyze, think critically, create media texts and identify the source of the media text ", the meaning of media literacy also includes "selecting suitable media to deliver their own information or stories to the target audience. That is to say, people should be both the 'recipient' of media text, but also its 'creator' ". Therefore, corresponding questions were set up to investigate and analyze the media use and development ability of college students of science and technology. According to the questionnaire survey, 58.74% of the students have not been involved in media related work, 29% of the students have been involved in the operation of WeChat public account, 23.43% have only been involved in video and audio making, and 7.43% have been involved in editing magazines, newspapers and other print media. It can be seen from this that nearly half of the students in science and engineering universities in Chengdu have tried to use media actively, especially the development and exploration of "We-Media", but more than half have not participated in media-related work, so their ability to use media actively and transmit information is weak, and their ability to create media texts also needs to be improved. In the response analysis of the question "how often do you post things on social media?", 43.49% of the respondents chose "not frequently", 17.84% chose "never", and only 6.69% chose "often", further confirming the above conclusion.

V. CONCLUSION

The concept and related theories of media literacy have been introduced and developed in China for a short period of time, lacking a qualitative leap, but media literacy has become an important part of college students' comprehensive literacy. However, in science and engineering universities, due to the characteristics of disciplines and the lack of relevant courses and publicity of media literacy, students' cognition of media literacy is relatively vague. They have a critical awareness of media information but lack in-depth analysis ability, and have low awareness of active use of media and weak creation ability of media text. It is very important and urgent to enable students in science and engineering universities to develop and improve themselves through the rational use of media resources and enhance their media literacy, by strengthening their media literacy education while paying attention to the cultivation of their comprehensive quality in combination with course characteristics.

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