Strategies for Improving College Students' Media Literacy Under the Background of Computer Modern Information Technology

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Abstract. This study used computer information technology to assess undergraduate students' perceptions of media literacy when using social media at Zhuhai University of Technology, Beijing. Quantitative methods were used to collect data from undergraduates. The study consisted of 489 questionnaires completed by randomly selected participants. The results show that, in general, the media literacy cognitive level of the college students in this sample is moderate, and further media courses need to be improved to improve the media literacy and media cognitive level. This study shows the importance of understanding college students' information literacy cognition in a specific social and cultural context. The research results can also be extended to similar academic institutions around the world. It is also hoped that the research results will help to develop situation training plans or information literacy tests through computer modern information technology, to promote information literacy in the social media environment.

Keywords: Media literacy · Social media · Undergraduate students · Computer modern information technology

1 Research Background

The rapid increase of media information and the continuous development of information technology promote the digital transformation of higher education, and the education and teaching environment is undergoing a profound transformation. It is an important work in the process of digital transformation of higher education at present. Information users have different abilities in determining the credibility and accuracy and the best use of information. Therefore, media literacy is a key aspect of success for college students, as this group of users is expected to encounter a large amount of information on a daily basis that has an impact on their studies, personal lives, and future careers (Gross & Latham, 2009). Nevertheless, studies that have been conducted indicate that the current media literacy skills of college students are at a low level in different contexts. The ability to use information effectively brings personal and social benefits and directly

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affects individuals' lifelong learning skills and their critical use of information (Khoo, 2014).

In November 2021, the Central Committee for Network Security and Informatization issued the Action Plan for Enhancing Digital Literacy and Skills for All, which proposes to enhance digital literacy for all people, and this plan puts forward new requirements for bridging the digital divide and meeting the challenges of the digital era. 2022 coincides with the 20th Congress of the Communist Party of China, cyber security and information work play an important role in national development, and the media The media environment is complicated and complex, and the lowering of media literacy of college students is likely to lead to deviation of values and influence by bad information. The timely and reasonable use of media technology to improve college students' media literacy, help them enhance their ability and level of information processing, improve their moral literacy, political literacy and rule of law literacy can not only help them better integrate into social life under the new situation, but also have undeniable value to the country and society. The study not only helps college students to better integrate into social life in the new situation, but also has an undeniable value to the country and society (Gross, 2005).

In view of the above statements, this study mainly aims to investigate the ability of undergraduate students in Zhuhai to effectively use and process information on social media platforms. More specifically, the study sought to determine college students' perceptions and attitudes, as well as their current understanding of media literacy and social media message use. The research questions were as follows: 1. To what extent will undergraduate students in Zhuhai use social media? 2. What are college students' perceptions and understandings of social media literacy skills? 3. Are there statistically significant differences in perceptions of gender, years of study, academic major, and prior knowledge?

The significance of the current study lies in its originality. There are five undergraduate institutions in Zhuhai, and there is a dearth of research related to investigating college students' media literacy skills in an open and shared environment in Zhuhai. In addition, the digital transformation of higher education has focused on the improvement of teachers' media literacy to help them better practice the fundamental task of building moral character, but there is a lack of contemporary media literacy training programs for students. Improving the media literacy skills of undergraduate students would certainly increase their chances of gaining social benefits and lead them to more lucrative careers in the future.

2 Research Methodology

This study aimed to assess college students' perceptions of media literacy skills in the social media environment using a quantitative research method based on a web-based questionnaire. The content of the questionnaire took into account the literature review and the nature of the environment in which this study was conducted. The questionnaire included information awareness, information needs, information search, information

evaluation, information communication, information processing, and information ethics and law, as well as demographic variables. A small group of respondents was pretested prior to the main distribution. The study was conducted at ZHBIT, Zhuhai, China in the second academic year 2021–2022. The target population consisted of all undergraduate students enrolled in all 4 years of study. It was distributed among nine colleges: School of Information, School of Computer Science, School of Industrial Automation, School of Materials and Environment, School of Aeronautics, School of Mathematical Sciences and Civil Engineering, School of Business, School of Accounting and Finance, School of Foreign Languages, School of Civil and Commercial Law, School of Design and Art, Bryant Program, and Sino-American International College.

A whole-group random sampling method was used for this study, including all students enrolled in the courses, and the distribution of the questionnaire was conducted through Questionnaire Star, a website that distributes questionnaires and obtains questionnaire data. Incomplete questions were excluded (Podgornik,Dolničar,Šorgo,& Bartol,2016). The data were then coded and poured into SPSS 25.0 for analysis. The question options were evaluated on a five-point Likert scale for media literacy and assigned the values "very much = 5", "somewhat = 4", "not sure = 3", and "not sure = 2". "not conform = 2", and "very much not conform = 1". To assess the reliability and internal consistency of the questionnaire, Cronbach's alpha coefficient was used for measurement. The mean Cronbach's alpha for all items of the returned questionnaire (n = 489) was 0.919, indicating a high level of internal consistency.

3 Research Results

The total number of validly returned questionnaires in this study was 510, and 489 valid questionnaires were finally obtained by excluding invalid questionnaires. There were significantly more male respondents (62.6%) than female respondents (37.4%).According to the analysis of the questionnaires, the media information search (M = 3.89) performed relatively well in the survey of media literacy, but in the media information processing, it was still lacking, as can be seen from the value of the standard deviation It can be seen from the value of the standard deviation that the individual differences in students' media information needs and media information retrieval are large, indicating the uneven development level of students' media information needs and media information retrieval ability within the sample.

In order to determine the relationship between the variables, correlation analysis was used to examine the dependence between the variables and to determine the direction of dependence and the degree of correlation. Media literacy consists of seven components, media information awareness, media information needs, media information search, media information evaluation, media information communication, media information processing, and media information ethics and law. From the results of correlation analysis, media information awareness showed a high correlation with other variables, which indicates that students are highly literate at the media awareness level and have some motivation to obtain information. The media information demand aspect has a

Table 1. Correlation coefficient table of media literacy of college students

	MIR	MIN	MIS	MIE	MIC	MIP	MIM
MIR	1	.620**	.612**	.645**	.135**	.099**	.132**
MIN	.620**	1	.828**	.911**	.465**	.129**	.292**
MIS	.612**	.828**	1	.925**	.458**	.075**	.234**
MIE	.645**	.911**	.925**	1	.489**	.076**	.244**
MIC	.135**	.465**	.458**	489**	1	-.029	.065
MIP	.099**	.129**	.075	.076	-.029	1	.763**
MIM	.132**	.292**	.234**	.244**	.065	.763**	1

correlation with each other variable, which also indicates that the information demand of college students is also increasing in the context of digital transformation of higher education, and the information demand of students should be continuously satisfied in the process of digital transformation, and the satisfaction of information demand can only have a positive influence on other factors at the same time. There is no direct correlation between media information exchange, media information processing and media information morality and law, which indicates that students under the current media level share less acquired information knowledge, stay in simple acceptance for information use and fail to produce creative content output, on the other hand, current college students are still in the stage of learning cognition, and do not have sound enough moral and legal cognition in media society. They are prone to violate the laws of media use and infringe intellectual property rights, and they do not know enough about the relevant laws and regulations and may even make excessive remarks Table 1.

In order to understand whether grade level affects the level of media literacy, ANOVA was used to analyze the results. The results showed that there were no statistically significant differences in the perception of all skills of information literacy, as shown in Table 2, and these findings also differ from previous studies (Blundell, 2014; Hassan Et Al., 2015), implying that there is no significant relationship between college students' grade and media literacy, and that media literacy does not increase with the duration of study, which also gives a The digital transformation process gives good suggested initiatives for media literacy improvement training activities in all grades from freshman to senior year.

At the gender level, to understand the differences between gender and media literacy levels, an independent samples t-test was used. The results show that there is no statistical difference between gender and all aspects of media literacy, as shown in Table 3, which also indicates that media literacy enhancement in digital transformation can be carried out simultaneously between male and female students, not to the extent that male students are more receptive or female students are more receptive.

Table 2. Anova test of level of media literacy between grade level

	Source	Df	Sum of Square	Mean of Square	F	Sig. Value (p)
IRnew	Between Groups	3	.530	.177	.230	.875
	Within Groups	485	372.174	.767		
	Total	488	372.704			
INnew	Between Groups	3	.911	.304	.254	.859
	Within Groups	485	580.866	1.198		
	Total	488	581.777			
ISnew	Between Groups	3	2.055	.685	.730	.535
	Within Groups	485	455.342	.939		
	Total	488	457.397			
IEnew	Between Groups	3	2.399	.800	1.000	.392
	Within Groups	485	387.772	.800		
	Total	488	390.171			

Table 3. Independent sample t-test on employee engagement

	Gender	n	Mean	t-value	Sig. Value (p)
MIR	Male	243	3.667		
				-1.209	0.279
	Female	246	3.762		
MIN	Male	243	3.645		
				-0.414	0.242
	Female	246	3.686		
MIS	Male	243	3.877		
				-0.319	0.903
	Female	246	3.905		
MIE	Male	243	3.847		
				-0.535	0.881
	Female	246	3.890		

(*continued*)

Table 3. (*continued*)

	Gender	n	Mean	t-value	Sig. Value (p)
MIC	Male	243	3.421		
				0.377	0.218
	Female	246	3.392		
MIP	Male	243	3.152		
				-0.296	0.081
	Female	246	3.173		
MIM	Male	243	3.602		
				1.033	0.330
	Female	246	3.546		

4 Conclusion and Discussion

Improving students' media literacy needs to be given an important place in the process of digital transformation of higher education. How to better adhere to the fundamental task of establishing moral education in the new media context focuses on grasping the elements of the law of media development, grasping the pulse of the times in digital transformation, helping students to appreciate the value of all-round development, cultivating the concept of education, and innovating the ways and methods of education. Despite the negative effects of media technology, we should be good at grasping the law and exploring the path of integration of media technology and educational talents.

The development of Internet technology and media technology is accelerating the change of education concept, teaching form and knowledge dissemination mode. Due to the continuous development of technologies, concepts and venues, students are no longer just satisfied with traditional education limiting the transfer of knowledge to theoretical knowledge instilled in the classroom but expect to use media technology to obtain more informative and interesting knowledge. The media literacy of students on the one hand heralds the shortcomings of our teaching methods in the process of digital transformation, and also promotes us to continuously expand the boundaries of teachers' media application capabilities to achieve teaching Real-time interaction between the subject and the teaching object. To meet the teaching and education requirements empowered by media technology in the new media era, and to improve the effectiveness of teaching and education. In the process of digital transformation, we should actively select high-quality media platforms and recommend high-quality media platforms that meet students' needs and psychology, such as "Learning Power" and other high-quality APPs, as well as "People's Daily" and "Xinhua", and other more authoritative websites, and help students effectively expand their media knowledge and cultivate good media usage habits. Colleges and universities should make use of the media's characteristics of fast communication, large influence and wide audience to make the correct public opinion environment and value orientation a common practice on campus.

When the media gives the public the invisible weapon of discourse, the media and the people have long since become one and inseparable. Everyone can express their opinions to the whole society or even the whole world. However, on the other side of this double-edged sword, the media has brought some side effects, such as the proliferation of false information and the induction of bad information. In view of this, college students need to have scientific media literacy in order to become a "firewall" to regulate their own media behavior, strengthen self-management, clarify the boundaries of freedom, and strive to reflect on media behavior and improve their own media quality. The study suggests that teaching units should increase media education courses to help students improve their media literacy and media emotions, and to improve their media literacy through continuous learning in the new media era. Also, relevant training programs or courses should involve teachers in order to use social media tools effectively in learning and teaching. This will help learners to achieve optimal use of information while stimulating their ability for independent and lifelong learning(Wang, Zhang, Cai, & Yu,2016).

This study was conducted in the context of the formation of current socio-cultural and socio-economic characteristics. The results of the study have practical implications for similar institutions and academic institutions. Today, in the context of the digital transformation process in higher education, more attention should be paid to the development of media information literacy and to respond to the significant changes brought about by the continuous progress in information and communication technologies.

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