An Empirical Study on Influencing Factors of College Students' New Media Literacy Based on Mathematical Model in Computer Environment

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Abstract. With the popularization of media such as computers, tablets and mobile phones, a wide variety of new media has become an important source of information for contemporary college students. At present, the computer environment has been deeply integrated with the lives of college students. Because college students are easily affected by the emotional reporting of the media and lost in the mass of information, it is particularly urgent to study the influencing factors of college students' new media literacy. This paper analyses the current situation of college students' new media literacy, and obtains three key factors influencing college students' new media literacy through mathematical modeling based on computer technology, which provides a new direction for strengthening college students' new media literacy.

Keywords: Computer Environment, College Student, New Media Literacy, Influence Factor

1. Introduction

In today's society, new media has been deeply integrated with people's lives. For college students who are in the transition from campus to society, using new media to obtain the required information has become their primary choice. However, since college students do not yet have a perfect concept of right and wrong, while the media environment brings convenience to the improvement of college students’ lives and awareness, their negative effects cannot be ignored. Therefore, we must deeply study the key factors that affect college students' new media literacy, so as to guide college students to form correct ethical and moral concepts, and avoid college students from losing themselves in the wave of new media.

2. Related concepts of new media in computer environment
2.1. The concept of new media in computing environment

New media not only integrates the functions of traditional media such as newspapers, radio and television, but also brings together the advantages of emerging media technologies such as digital, the network and mobile communication[1]. What new media brings to people is not only an advanced technical means, which facilitates people to quickly and directly understand the external world, but also leads to a major change in the mode of cultural production and communication, which has a profound impact on people's social life. As a new type of social and cultural living space, the new media environment presents the following characteristics.

   (1) Diversity

   The new media environment creates a multi-cultural atmosphere, which greatly enriches the sources, ways and the contents of people's knowledge acquisition. In form, the new media such as the Internet has changed the traditional single linear organization form[2]. This form integrates various resources through hypertext and three-dimensional forms, so that knowledge is distributed in a network and interconnected. In terms of content, the new media environment can be described as all-encompassing and colourful, ranging from astronomy and geography to clothing, food and housing.

   (2) Interactive

   The new media environment has an interactive feature in the process of information dissemination, which is not available in the traditional media. In the past, in the process of transmitting information through newspapers and broadcasts, the audience participation level was very low, or even did not participate. And the way of dissemination of new media has been greatly improved. Information is transmitted instantly through audio, video, and images, realizing instant communication and interaction, and providing a new and three-dimensional way for people to communicate.

2.2. The concept of College Students' new media literacy under the computer environment

Under the computing environment, the new media literacy of college students in China refers to the media literacy that college students should have under such a special environment[3]. Specifically, college students' new media literacy should include three levels of ability. The first level is the basic ability to contact, select, analyse and disseminate information. The second level is the ability to understand and criticize the media, which requires college students to be able to understand the meaning behind the information and identify the authenticity of the information[4]. The third level is the ability to participate in and use the media, which is the highest level of College Students' media literacy. It mainly refers to the ability to make effective use of the media, so as to make themselves grow into talents and serve the society.

3. The current situation and existing problems of college students' new media literacy

3.1. The status of college students' new media literacy

   (1) Internet-based media preferences

   New media has become the main source of information for contemporary college students. As shown in Figure 1, the Internet has become the dominant preference at 56.99%, and 37.76% of students prefer TV and advertising. In contrast, the influence of traditional media such as paper media has decayed, and the preferred number of students accounts for only 5%. In addition, mobile phones and computers are
the main means of using the Internet, which has a profound impact on the daily lives of college students.

![Pie chart showing preferences for new media]

**Figure 1.** College students' preference for new media

(2) Making friends relying on online social platforms

The survey results of the dating method show that social platforms have gradually replaced the traditional dating method and become the main medium for contemporary college students to communicate, among which WeChat and Weibo are favoured by college students.

3.2. The problems of college students' new media literacy

(1) The discriminating ability of college students is not strong, and it is easy to cause confusion. College students lack the distinction between media and information, and are easily disturbed by messy and huge information\(^5\). In the new media environment, the influx of redundant information makes the quality of the information more difficult to distinguish. The lack of media literacy leads to the lack of criticism and Reflection on media and information. At the same time, they don't think when contacting and transmitting information, so they are easily confused by false information and bad information.

(2) College students are not firm and easy to be incited by false information. In today's public opinion, the phenomenon of "group polarization" is prone to occur\(^6\). This is not only because today's media information is highly inflammatory and vulgar, but also because college students lack in-depth thinking in the media environment, and their positions are not firm enough, which is easy to be incited and produce impulsive behaviour.

(3) In the process of contact and selection of information and media, contemporary college students tend to be more inclined to entertainment and neglect learning functions. The over-commercialization of the media leads to serious infotainment, which makes it more difficult for them to control themselves and thus easily fall into or indulge in the entertainment media. The survey shows that college students use Weibo to follow star gossip at a high rate, they pay too much attention to entertainment gossip.

4. Analysis on the influencing factors of College Students' new media literacy under the computer environment

4.1. TAM mathematical modeling of influencing factors of College Students' new media literacy under computer environment

In addition to the media literacy caused by traditional film, television, radio and other mass media, college students' new media literacy also has the characteristics of mobile Internet, mobile phone retrieval, mobile phone publishing and other technical aspects. Therefore, it is reasonable to predict and explain college students' new media literacy based on TAM theory. This paper uses TAM model to
construct the mathematical model of influencing factors of College Students' new media literacy, as shown in Figure 2. Through the analysis of mathematical modeling, we can see that the influencing factors of College Students' new media literacy mainly come from three aspects, namely, the lack of new media development, the lack of attention of colleges to the education of College Students' new media literacy, and the environment of College Students' family new media literacy is not good enough.

![TAM mathematical model](image)

**Figure 2.** Tam mathematical modeling of influencing factors

4.2. The development of new media is insufficient

The emergence of new media provides students with a wide variety of information access channels, and also provides great convenience for students' daily life and learning. The ensuing problem is that some college students have become overly dependent on the use of new media to obtain information, and even regard new media as the only way to obtain information. However, due to the excessive speed of promotion, the development of new media itself at this stage has serious shortcomings. When disseminating information, it is impossible to scientifically and accurately screen the correctness of information disseminated, and those who do not have the ability to correctly distinguish the authenticity of the information as far as some college students are concerned, the new media not only cannot fully exert its positive role, but it may even have a counterproductive effect.

4.3. Colleges do not pay enough attention to college students' new media literacy education

At present, some colleges do not pay enough attention to the new media literacy education of college students in thinking and understanding, and they have not kept pace with the times in their actions. Although some colleges and universities use campus media to carry out some media literacy education activities, but the main purpose is to make students understand the information and broaden their horizons, which cannot achieve the original intention and purpose of Cultivating College Students' media critical consciousness and ability. The practical form of media literacy education for college students is relatively single, which is difficult to arouse the interest of college students. In addition, colleges lack of a sound media literacy education guarantee mechanism and evaluation mechanism for the development of media literacy education of college students, and there is no standardized and institutionalized development.

4.4. The new media literacy environment of College Students' families is not good enough

Good family atmosphere is particularly important for the growth of college students. Paying attention to and creating a good family media literacy education environment is conducive to improving students' media literacy. Family is one of the important places for college students to access internet, newspapers, radio and other media and obtain information. It is also one of the main places where sports college
students are affected by bad media information. First of all, in order to improve the media literacy of college students, parents must set an example to create a harmonious and warm family environment, so that children can feel the love of the family. Secondly, parents should hold some family meetings and extracurricular activities from time to time to reduce the dependence of college students on the virtual media world and build healthy living habits and lifestyle. Thirdly, it is necessary to establish family media interaction to cultivate college students' critical thinking in the process of interaction.

5. Conclusion

Through the research of this paper, we can find that the factors affecting college students' new media literacy come from school, family and other aspects. With the popularity of computer and Internet, the new media environment attracts college students deeply with its diversity, complexity and entertainment, and deeply affects their behaviour habits. However, due to the development of new media has many drawbacks, and the school and family do not pay enough attention to the new media literacy of college students, we must deeply understand the various factors affecting the new media literacy of college students, and help them effectively resist the negative impact and harm of new media on them, so that college students can truly become the mainstay of the country.

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