Research on the Cultivation Strategy of College Students' Values Based on the ELM Model Under the Spread of Short Videos

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Abstract. The propagation of short videos is an important way to spread information on modern social media. The youth group is a major group to receive short video information, and the shaping of their values is closely related to the transmission of the short video. Based on the ELM model, this paper makes a framework integration and research on the communication effect and impact of short videos on social media, and finds that by analyzing the influence of the central path, such as the theme and quality of short videos and the peripheral paths, such as the information source characteristics and the surface situation of information transmitters in different degrees, there are some suggestions on cultivating college students' values of short videos from three aspects: increasing the spread recognition which includes conveying positive emotional experiences content and marginal factors to strengthen social identity, spreading engagement aiming at enhancing the subjectivity of the educated and communication value of short videos for the propose of enhancing students' moral value guidance and cultural transmission concept.

Keywords: ELM model · Short video transmission · College students · Cultivation of values

1 Introduction

With the continuous innovation and development of information technology, the short video industry is gradually emerging. According to the 49th Statistical Report on the Development of China's Internet published by the China Internet Network Information Center (CNNIC), by December 2021, the number of short video users had reached 934 million, and the utilization rate was 90.5% [1]. The characteristics of short video communication fit the fast-paced entertainment habits of people at present, and it has great appeal to college students. Contemporary young college students have the outstanding characteristics of enhancing self-awareness, pursuing ideological independence, networking in

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study and life, and mature physical and mental development. Their value orientation is closely related to the value orientation of the whole society in the future. Micro-media has a huge amount of information and its update speed is extremely fast. Although it provides diversified information channels for college students' values education, there is also a lot of bad information in it, which makes the all-round healthy development of college students and the shaping of values face challenges, and its negative impact is also an urgent problem to be solved [2]. Therefore, combining the characteristics of information media communication and guiding college students to establish correct values is not only of special significance for colleges and universities, but also the social responsibility and mission that colleges and universities must undertake.

The elaboration Likelihood Model (ELM) was put forward by social psychologists Petty and Cacioppo. It is a classic theoretical model that can explain people's information processing and attitude change based on their cognition and attitude. Using this model to analyze can comprehend the characteristics of short video transmission layer by layer, and build a good basic framework.

Based on the ELM model, this paper aims to link the characteristics of short video exchange with the ideological and political education of young students and the cultivation path of core values. It analyzes the characteristics of a short video from two categories: central path and marginal path, then it analyzes the problems existing in the process of college students' values education under the short video commuting environment from the aspects of emotion, behavior, and value, the influencing factors and the relationship between the short video communication situation and the cultivation way of young students' values to put forward targeted suggestions for cultivating young college students' values under the short video communication environment.

2 The Form and Characteristics of Short Video Transmission Based on the ELM Model

2.1 Theoretical Basis of Classification–Center Path and Edge Path

Based on the ELM model, users can adopt two paths in the process of information processing and disposing: Center Path and Edge Path. ELM theory has got a lot of empirical tests, and the central path is mainly for users to process information rationally and objectively from the content information itself, and then think deeply, thus forming relevant cognition and attitude. The edge mainly deals with information subjectively and irrationally according to situational factors after users get information.

At present, there are many literatures use the ELM model to analyze different effects and influence mechanisms in media information dissemination. Sussman and Siegal, for example, applied the fine processing possibility model to online information dissemination, and put forward the central path and the marginal path that the information quality and the information source credibility affect the audience's information adoption intention respectively [3]. L. Liao et al. explored the different influences of information source characteristics, information content characteristics, and emotional characteristics on Weibo forwarding according to the ELM model and cognitive theory of emotion [4]. Based on the ELM model, Yan Huang and others used content analysis and regression

analysis to analyze and calculate the content theme, content quality, content presentation methods, and skills of 5562 short videos of the Communist Youth League Tik Tok [5]. Scholars have studied and discussed the factors that influence short video transmission by using the ELM model, but there are few type of research link short video transmission content with college students' values exploration.

To sum up, based on the ELM model, the authors divide the short video propagation effect and its related influence into two categories: center path and edge path, and the researchers will elaborate on these two aspects. Among them, as the central path, the short video content includes two aspects: theme and quality, while as the edge path, it is summarized as the surface scene factors and source characteristics.

2.2 Central Path– Content of Short Video

2.2.1 Theme of Short Video

The short video has two characteristics: one is an efficient push, and the other is convenience. The topic content type and content emotion expression of a short video is the core of users' own needs and choices.

From the perspective of theme types, the current research is mainly about the short video types of government affairs, reading promotion, science and technology popularization, art and culture, food, etc. From the perspective of video zoning, learning from the zoning type of Bili Bili, a video platform with a high concentration of domestic youth groups, is divided into seven types: campus information, campus life, auto-tune remix-themed content, Party loving, and patriotic education, music, knowledge, and Technology [5]. From the research of Y. Huang and others, the content themes of the short video of the Communist Youth League in Colleges and universities are mainly campus information, Party loving, patriotic education, and campus life, accounting for 50.41%, 21.14%, and 19.02% respectively. L. Zhang and others found that the content and theme of the short video of the central Ticktock of the Communist Youth League are mainly current affairs hot spots (35.7%), model power (22.0%), and military image publicity (15.5%). The readability and intention fit of short video content are the key factors that affect the understanding and cognition level of viewers, and thus also affect the perception, viewing interest, and communication intention of viewers. Combined with the data results of Y.X. Liu and others, users' exchange intention is most likely to be affected by information factors (i.e., the impact of network public opinion information, pictures, text, and multimedia). The information content of the short video exchange is abundant and interesting. It can satisfy viewers with social and entertainment and arouse users' emotional resonance [6].

From the aspect of emotional expression of content, emotional tendency usually refers to the author's emotional orientation reflected in the text [7]. Previous studies have shown that the emotional expression of content can have an impact on the viewer's cognition and attitude, and also affect the viewer's emotional experience in the process, thus affecting the communicating effect. In general, short videos can be divided into subjective emotion types and objective fact types. Zhang Li and others found that the emotional tendencies of short videos of government affairs are mainly passionate and solemn (34.9%) and gentle and moving (33.3%) [8]. Yang Dasen et al. found that the

number of short videos expressing positive affective tendencies was slightly higher than that expressing negative affective tendencies [7]. Lai Shengqiang and others also made the dimension division of "information interest" in the construction framework. In their measurement questions, they mentioned words with positive emotional tendencies such as "reading this information makes me feel happy and excited" and "enjoying reading", and confirmed the relationship between information interest and information forwarding intention (β = 0.384, p < 0.001) [9].

2.2.2 Quality of Short Video

Short videos and other information media come from a wide range of sources, with complex and diversified content, life vlogs, skill-sharing, beauty dressing, humor, advertising, etc. Different users can edit and upload content independently, with a low creation threshold and uneven level and quality. It is a challenge for contemporary college students to identify their interests when watching short videos. Based on the classification of L.S. Lai et al., the integrity, logical clarity, and diversity index of short videos are taken as the evaluation criteria. High-quality short videos tend to be affluent in content, with sufficient and reasonable arguments and strong logic. The public will judge them as useful information, so they have a high willingness to forward and can form a good connection effect. A large number of studies have shown that information composed of ample and effective arguments and reasonable arguments can enable users to form a positive attitude and promote information dissemination. However, if the information is lack data or the logic of the argument is poor, users will take a negative attitude towards the information and block the transmission of the information [5].

2.3 Edge Path - Source Characteristics and Surface Scenario Factors

Combined with the previous analysis of the peripheral factors of the short video, the authors summarize and explore them, and find the edge path into two aspects: source characteristics and surface scene factors.

The source features of the short video include the viewing platform, number of fans, followers, likes, comments, etc. In terms of viewing platforms, by June 2021, relevant data showed that Ticktock (active users: 64485 ppl/d) and Kwai (active users: 41742 ppl/d) were the top two platforms with the largest user scale, followed by the super-fast version platform and watermelon video. Previous studies have also shown that the source of authority also has a significant impact on the trust of College Students' short videos. Enterprise authentication can indirectly affect the audience's trust in the video content and its authority. After watching the video, the users' likes, collections, comments and attention to the blogger show the users' attitude, love, and recognition of the video to a certain extent. The positive relationship between spreading reputation and information source credibility is significant (β = 0.237, p < 0.001). When communicators have high popularity and reputation, the audience will think they are trustworthy [9]. Therefore, the number of likes and collections of videos and the behavior of paying attention to bloggers can be used as the measurement indicators of connecting identity. The comment behavior of video is used as a measure of communicator participation. To sum up, colleges and universities can break the existing pattern and take the initiative to attack the short video

space. Teachers can also encourage and drive students to use the short video platform healthily, to create a situation for teachers and students.

The surface scene factors include the cover, duration, background music type of the short video, whether there is a "#" "@" topic, and whether it is a vertical screen. The video cover is mainly from the aspects of the cover role, cover caption, and cover typesetting. According to the research of Y. Huang and others, the video duration, for example, in the Central Committee of the Communist Youth League, is dominated by ultra-short videos. Videos within 15 s and 16–30 s account for 72%, and videos longer than 1 min only account for 9.6%. The emotional types of background music can be divided into five categories: sad, passionate, gentle, solemn, and lively. Subtitles, whether there is a "#" topic and screen form are simple binary variables. From their research, they found that 84.54% of the short videos of the Communist Youth League in Colleges and universities with Ticktock included 82.79% of the short videos were in the form of the vertical screen. BGM of 60.73% of short videos belongs to the gentle type [5]. X.F. Li also found that the Central Committee of the Communist Youth League tends to be equipped with diversified subtitles (accounting for 91.0%) and music (accounting for 95.1%), but does not use topic labels. According to the above analysis, when releasing short videos, the relevant accounts of colleges and universities can simplify the content, shorten the video time, highlight the main content to attract students to watch, and can be equipped with gentle music and diversified subtitles, adding "#" topics.

3 Suggestions on Value Cultivation of College Students Based on the ELM Model

Contemporary college students who are easy to accept new things have the ability of independent thinking and insight, and at the same time, their thoughts and values are also easily influenced by their surroundings and groups. To guide college students to form good values when watching short videos, it is significant for college students to set up the correct values. In addition, short videos with their efficient circulation to college students' cognitive learning, emotional reaction, and action effect has a series of influence [10]. Combined with the center of the model and edge path respectively involving three factors, based on the values and guiding the theme, the author will explore its path from three parts of effect: the emotional aspect--spread identity, behavior aspect--communication engagement, value aspect-- communication value.

3.1 Emotional Aspect–Enhance the Degree of Spread Recognition

3.1.1 Conveys Positive Emotional Experiences Content

High-quality short video content can let users gain more experience and identity, so it is necessary to strictly control the quality of short video content and provide effective contexts and forms of social interaction from the level of moral development education. Although Huang Hepeng et al. also mentioned that due to the online interaction property of short videos, it makes college students have interaction alienation characteristics and easily weaken the real interaction [11]. Short videos can link video performers with viewers who want to link, and they form an emotional connection between online and

offline in this mutual attention process. The study by Min Zhang et al. showed that content quality needs satisfaction (β = 0.563, p < 0.001) positively influenced platform emotional attachment. When users feel that short video content quality satisfies the demand, i.e., where content salience, content emotion, and content fit positively affect content quality demand satisfaction, it also means that the higher the degree of emotional demand satisfaction and cognitive demand satisfaction of short video content quality [12]. Media information quality has a positive and positive impact on users' perception of experience.

Therefore, for the custom level and post-custom level stages of college students, the contextual factors can be effectively combined through short video content that is emotionally positive with significant communication values, and can be produced in conjunction with college students' interests.

At the same time, video publishers can augment more positive content in their production, not only through the interchange of content, but also through contextual thinking, such as moral dilemmas to choose. The discussion can be started, and good interaction can be set up in the form of adding effective questions appropriately, which can make the subjects themselves judge the cognitive conflict in the atmosphere, so that the existing cognitive structure can be balanced and reorganized again. Thus, these can create a suitable degree of attachment and positive experience to the positive content of the short video, and realize the development of moral cognition and value. Theoretical analysis derived from facts is the most convincing. For example, at the end of 2018, teachers and students of Tsinghua University, Wuhan University, and other universities, through the form of the flash mobs, have sung "My Motherland and Me", which has triggered strong reactions on short video platforms and gained a high number of plays and likes. At the beginning of the year 2020, after the outbreak of COVID-19, many colleges made short videos, self-made MVs, and others, thus paying tribute to the white angels (kind and responsible nurses), on-duty police, and other retrograde heroes (doctors who bravely went to the front lines) in the front line of the epidemic by shooting short videos and making their own MVs. Short videos with depth, temperature, and groundedness are faster and more effective in spreading, which also can convey positive emotions and strengthen recognition. As for college teachers, they should learn from each other with students, pay more attention to some short videos that are of interest to youth groups, and share short videos of values that incorporate positive emotions when guiding students to learn positive values. Therefore, students also form positive influences through simple short video impressions, and then positive emotions are transmitted in these central paths.

3.1.2 Marginal Factors to Enhance Social Identity

The exchange and reception of information are exceeding related to the external circumstances. The main purpose of mainstream ideology spreading is to raise its identity, and the communication media is the way to achieve the boost mainstream ideology identity. In their study, S.S. Zhai et al. found that the increase in the frequency of use, length of single-use, and a number of followers all intensify users' selective exposure behaviors [13]. Agenda setting has a very powerful function and role in spreading science, which mainly refers to arranging topics of discussion for the public to guide them to discuss

and think in the desired direction [14]. As for short video platforms, they should guide and encourage people, especially college student groups, to post videos with positive meanings more often.

Therefore, youth video publishers need to perceive the value of the social group they are, so that they can regulate themselves and their content quality in constant interaction. Some contextual factors in short videos enable them to fortify their sense of social identity and expect to gain a higher level of social recognition to support themselves, develop themselves, and build a sense of belonging. It is necessary to advocate the production of value-led video publishers to do a good job of positioning the platform choice. The users of platforms like Ticktock and Kwai love easy-to-understand grassroots content, these can be combined with simple value stories, and improve the positive emotions, so as to explain the core values to the public. For example, the highest number of likes (519.2 million) is the real tower conversation of the "Chinese captain" incident, which does not have too many elements and the content is simple, and very suitable for the characteristics of Ticktock. The group of Bili Bili's users is mostly post-90s and post-00s. Because of the young groups, the content released is mostly knowledge sharing, which is suitable for releasing knowledge-based short videos, such as academic knowledge sharing sessions, scientific experiments, learning to use research tools, etc. By constantly regulating their production and optimizing content, they can enhance their own social identity.

At the same time, trying to choose a video cover that can bring happiness and comfort to the public, pleasant background music settings, and control of the video's length like 16–30 s is a more appropriate choice. Additionally, setting more pop-up options may add audience interaction. These marginal factors can affect the viewer's sense of identity to a certain extent, thus increasing their probability of forwarding, and spreading, to achieve better value cultivation of Propaganda.

3.2 Behavioral Aspect—Increases Spread Engagement

The participation of behavior is particularly important in the message atmosphere of short videos, so it is significant to muscle the subjectivity of the educated. To improve the effectiveness of the ideological and political education of the educated, people must adhere to the educational concept of "people-oriented" in education, clarify and highlight their subject status of them, and build up the consciousness of college students for the subject. Combined with Kohlberg's theory, morality can be taught, but a single indoctrination does not promote the good development of students' moral levels and values. When carrying out moral education, college teachers should change the teaching method of indoctrination-type, advance the state of two-way communication between teachers and students, fully mobilize students' subjective initiative, and guide students to improve their moral level in the communication and interaction.

Starting from the integrity and logic of the content quality mentioned in the central path, students should actively participate in the collective learning and life, and should carry out self-education and self-management in abiding by the common rules, to achieve the balance between cognition and behavior, and then improve their moral level. Besides, teachers and students have the same basic rights, and the function of teachers can be slowly started from pure moral cognition to moral behavior promoters. Teachers can also jointly invite students to value education video production, thus mobilizing the spread

of the new media to participate in the subject of the positive energy. This also gives full play to the students' subjectivity after combined with short video learning.

When it comes to the edge path of video authority, in-classroom learning, the public can combine and use Kohlberg's "moral dilemma discussion method" which is actively advocated and promoted. It attaches great importance to students' moral judgment, reasoning, and choice ability, induces students' positive thinking, as well as making the moral education content to be its cognition and acceptance and internalization, so the cognitive level can gradually be promoted to a higher level. After sharing relevant short videos with the children, they are not only able to discuss the selection of the content of the video comment section, opinions of video publishers and the content's authority, but also can strengthen students' ability to distinguish the right from wrong by sharing related cases with college students and short videos. As the comment section can reflect the views and think of various people with diverse ideas, therefore, students can be encouraged to play their initiative and treat the short video platform with diversified content with rational thinking. Thus, students can discuss the real-time moral dilemma.

3.3   Value Aspect—Adds Communication Value

The purpose of ideological and political education in the new era is to guide students to form a correct worldview, outlook on life, and values based on the original moral cognition. Thereby, what should the public focus on more is heightening students' moral value guidance and cultural transmission concepts. From the point of the theme of the central path content, to explore "thought + information" ideas, college teachers can accelerate short video themes such as national conditions, current affairs, national culture, and advanced typical character stories, as well as making prominent schematic consciousness such as the patriotic feelings, ambitions, actions into teaching the value of socialist modernization construction [15]. Through the short video platform of the development of ideological column, It is significant to excavate hot events combined with national mainstream values, creative strongly interesting short video works, make the connections with red thoughts and "micro" classroom.

Simultaneously, the short video contains a kind of social creativity and shaping ability. As the infrastructure for social and cultural publicity generation, it builds an unconventional database of daily life [16]. Since its advantages are far greater than the static image conversion, it can influence the viewers more quickly. In the production of short videos, they combine the existing social public order and good customs, and add new cultural values and ideas, making it easier for them to accommodate new information. At the same time, by combining news with culture to publicize cultural values, the most acceptable information to the audience often has two attributes news and culture [13]. These make the college students constantly adjust their development and be better to adopt to the new information in the process of adaptation.

4   Conclusion

With the increasing number of short video platforms and the public popularity of short videos, it is particularly important to systematically explore the influence of short video

communication on the shaping and cultivation of youth values in universities. In this paper, the ELM model is used as the basic framework to analyze hierarchically the short video transmission characteristics, and this paper combines the physical and mental characteristics of educators in universities, connecting ideological and political education and cognitive education. Meanwhile, through the spread of short video surroundings, according to three fields of cognitive learning, emotional response, action, arousing the enthusiasm of college students, creatively absorbing and internalizing the information of ideological and political education.

From the perspective of emotion, what's important is to create and spread the positive value of meaning of content from multiple perspectives, as well as increasing the video interactive experience to arouse the emotional resonance of the viewers and the consideration of the platform positioning and video cover and music. Additionally, college teachers should also add more short video sharing and explanations related to positive emotions. From the perspective of behavioral, college teachers should innovate the form of value education, and invite students to jointly produce a series of situational classroom learning, such as positive short video content and participation in the discussion of short video comments, to drive students' participation and better realize the two sides of short video communication. From the perspective of value, students' understanding and thinking of their moral values and their exploration of local cultural communication can be raised with the concept of "ideological and political affairs + information".

Current researches tend to ideological descriptive articles, so the future research can adopt tracking research ways, systematically and meticulously explore the development trajectory of youth values and the close degree of short video contact, and its influence which contains the changes of the contact of the relevant significant factor such as family environment, peer influence, socialization degree. In addition, the author lacks more relevant empirical research, so future researchers can construct a problem framework for short video communication and adolescents based on ELM models and other applicable classification models, to further find more important communication factors.

References

1. CNNIC, 49th Statistical Report on Internet Development in China. Journalism Tide, p. 3 (2022).
2. Sun, N. (2021). Value education of contemporary college students from the perspective of micro-media. *Media Forum, 4*, 54–55.
3. Wang, W. (2021). Attitudes and behaviors of internet users towards fake social news: An empirical analysis based on ELM model. *Information Science, 39*, 126–132+145. https://doi.org/10.13833/j.issn.1007-7634.2021.12.019
4. Liao, L., & Huang, T. (2020). Research on the influence of source, information content and emotional characteristics on Weibo reposting. *Journal of Modern Information, 40*, 42–52. https://doi.org/10.3969/j.issn.1008-0821.2020.09.005
5. Huang, Y., Wang, X. Y., & Li, W. D. (2022). Empirical study on the factors influencing the effect of tik tok short video communication in college communist youth league–based on the content analysis of the communist youth league Tik Tok in 100 universities in China. *Journal of Chinese Youth Social Science, 41*, 43–55. https://doi.org/10.16034/j.cnki.10-1318/c.2022.02.016

6. Liu, Y. X., Ma, S. Q., & Zhao, D. (2022). Influential factors and dynamic evolution of short video network public opinion communication in the new media era. *Information Science, 40*, 179–185. https://doi.org/10.13833/j.issn.1007-7634.2022.04.022

7. Yang, D. S., Li, S. X., & Cong, Y. N. (2021). Study on the influence factors of Tik tok reading promotion and short video communication effect. *Research on Library Science, 23*, 34–44. https://doi.org/10.15941/j.cnki.issn1001-0424.2021.23.004

8. Zhang, L., & Li, X. F. (2022). Analysis of the communication effect and influencing factors of the Tik Tok short video of the communist youth league central committee. *Journal of Chinese Youth Social Science, 41*, 30–42. https://doi.org/10.16034/j.cnki.10-1318/c.2022.02.013

9. Lai, S. Q., & Tang, X. M. (2017). Research on social media information retransmission based on ELM theory. *Information Science, 35*, 96–101. https://doi.org/10.13833/j.cnki.is.2017.09.016

10. Da, N. S., Li, J. J. (2018). Offline triggered online: The factors of communicating effects of intangible heritage micro-blogs and their empirical analysis. *Journal of Hunan University (Social Sciences), 32*, 155–160. https://doi.org/10.16339/j.cnki.hdxbskb.2018.04.023

11. Huang, H. P., Men, R. X., & Qu, T. H. (2019) Perspective of college students' values under the influence of short video culture. In: *The party building and ideological education in schools*, Heidelberg (vol. 18, pp. 86–89).

12. Zhang, M., Long, B. N., Zhao, X. et al. (2021). Formation mechanism of short video users' continuance intention and its governance prospects. *Journal of Modern Information, 41*, 49–59. https://doi.org/10.1007/10722167_15

13. Zhai, S. S., Hu, P., Wu, X., et al. (2021). Information cocoons phenomenon of new media social platforms based on user information behavior and the cocoons breaking strategy–taking intangible cultural heritage short video communication as an example. *Information Science, 39*, 118–125. https://doi.org/10.13833/j.issn.1007-7634.2021.10.016

14. Yang, M. H. (2017). Research on the influence of Guangxi university official micro-platform communication activities on campus cultural identity. In: *Guangxi University*, pp. 155–160. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD201801&filename=1017227447.nh

15. Chen, C. Z., & Zhi, Z. L. (2021) Analysis on the "short video + ideological and political" education model for Chinese students based on schema theory. *Media Education, 18*, 85–87+89.

16. Chen, L., & Chen, X. Y. (2022). The reason of browsing short video become a media practice–ethnographic research on ethnography based on short video user groups. *News and Writing, 4*, 33–45.