Analysis on the Dynamic Control Strategy of College Students' Thinking Based on the Background of Mobile Multimedia

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Abstract: In order to help the school master the ideological state of college students in time and carry out the ideological and political education of college students, this paper proposes a dynamic evaluation model of College Students' ideology based on network media and data mining. By capturing the content of College Students' microblog, combining with emotion analysis, feature word extraction and natural language processing technology, using data mining methods such as clustering, topic detection and association analysis, this paper constructs the relationship between College Students' ideological trends and microblog content. In this paper, crawlers are used to capture the official microblog content and comments, extract and analyze keywords, and grasp the ideological trends in time through word cloud display and K-means clustering analysis, so as to obtain the hot topics they are concerned about for a period of time. It is of great significance to provide targeted methods and strategies for college students' Ideological and political education and help them establish correct values and ideas.

1. Introduction

With the development and continuous progress of new information technology, our society has rapidly entered the digital information age. The application and promotion of multimedia has led to multi-level innovation and change. The Internet has become the main platform for information dissemination, as well as the platform for the development and breeding of multimedia. Multimedia technology has been widely used in all walks of life [1-2]. Through the application of multimedia technology in the field of Ideological and political theory education and teaching in Colleges and universities, new characteristics and development trend of Ideological and political theory education and teaching technology appear [3-4]. The traditional ideological and political education is mainly classroom education, which is more about teaching the theoretical knowledge of Ideological and political aspects, unable to grasp the students' ideological trends. In order to help schools and counselors grasp the ideological state of college students in time and carry out the ideological and political education of college students, this paper proposes a dynamic evaluation model of College Students' ideology based on network media and data mining [5]. By capturing the content of College Students' microblog, combining with emotion analysis, feature word extraction and natural

language processing technology, using data mining methods such as clustering, topic detection and association analysis, this paper constructs the relationship between College Students' ideological trends and microblog content.

With the development of the times, the popularity of multimedia in college students is very high. Especially the popularity of the network in the campus, students can directly connect to the broadband network in the dormitory, but also in any corner of the school wireless Internet. In recent years, wireless network is everywhere. College students can connect with each other through smart phones at any time. The mode of communication and information acquisition between students has changed completely. Ideological and political theory course in Colleges and universities has the reality and high openness of connecting with social reality, which determines that it is very suitable for the use of network media resources to carry out teaching activities [6]. The richness of resources in the multimedia era provides favorable conditions for students to choose learning resources. College students can choose various learning resources according to their own needs, and they can also use different ways to learn on the Internet, which can greatly improve their ability of autonomous learning. So that the ideological and political theory teaching is no longer boring, is conducive to enhance the initiative of college students, and then enhance the effectiveness of Ideological and political theory teaching.

2. Research on the Dynamic Innovation of College Students' Thoughts from the Perspective of Multimedia

2.1 The Feasibility of Ideological and Political Education in Colleges and Universities in the Multimedia Era

(1) Multimedia is helpful to expand teaching space

The development of multimedia expands the teaching space of Ideological and political theory course in Colleges and universities. In the past, the traditional ideological and political theory course often required teachers and students to have a class in the designated classroom at a certain time. Therefore, teaching and learning are limited in time and space. In the past, individual college teachers still rely on the traditional classroom teaching form when teaching ideological and political theory, so the channels for college students to acquire knowledge are very narrow [7]. The traditional classroom teaching mode of theory course can not impart a variety of information knowledge in a very short time, which is mainly restricted by time, space, teachers, equipment and other factors, so it will greatly reduce the effectiveness of Ideological and political theory course education and teaching in Colleges and universities, and weaken the interest of college students in learning ideological and political theory course [8-9]. These problems need to be solved. With the emergence of multimedia, the ideological and political theory course in Colleges and universities can break through the limitation of time and space with the help of multimedia technology, and expand the teaching space of Ideological and political theory course in Colleges and universities.

First of all, the network and other multimedia resources enrich the teaching resources of Ideological and political theory teachers. As long as with the multimedia client, college students in the ideological and political theory course can at any time access to the relevant ideological and political theory course information they need, can greatly increase the awareness of autonomous learning ideological and political theory course. Through rich resources to increase the interest in learning the ideological and political theory course, to a certain extent, it also enhances the effectiveness of the ideological and political theory course education and teaching, and expands the time and space scope of the ideological and political theory course. Secondly, in the era of network multimedia, the ideological and political theory course education and teaching in Colleges and universities can be better integrated into the social environment, so that college students can timely

and effectively accept a lot of knowledge and information, and gradually change the traditional teaching mode and teaching content of Ideological and political theory course, so that the teaching content can keep pace with the times, and more effective [10]. Multimedia makes the traditional teaching space more open, which can well combine the effective resources of all aspects of society, and is conducive to enhancing the effectiveness of Ideological and political theory education and teaching in Colleges and universities.

(2) Multimedia is conducive to the innovation of teaching materials

Today, with the rapid development of science and technology, the total amount of human knowledge is growing rapidly. The rapid update of information knowledge makes the inefficient traditional teaching ideas, teaching contents and teaching methods out of touch and conflict with the development of modern society. Many students may have passed the validity period of their research before they can master the knowledge and information. Therefore, in order to keep up with the rapid update of modern information knowledge, we must use multimedia to enrich teaching materials, so that teachers and students can quickly master teaching materials to keep up with the pace of rapid update of modern knowledge. With the advent of the multimedia era, the traditional teaching methods of Ideological and political theory course obviously constitute a serious impact. The characteristics of the multimedia era is very conducive to the reform and innovation of teaching methods of Ideological and political theory course. In the past, the teaching method of "filling the whole room and playing alone" will inevitably be replaced by the two-way interactive communication between teachers and students, discussion and question answering, which is conducive to mobilizing the enthusiasm of teachers, improving the initiative and consciousness of students in learning ideological and political theory courses, and improving and enhancing the teaching effect.

At present, multimedia technology based on digital technology as a medium and network as a platform is rising all over the world with rapid speed. This new thing in the high-tech era not only challenges the traditional media, but also puts forward new topics for the teachers of Ideological and political theory course in Colleges and universities at all levels of the education field. Multimedia knowledge information resources are very rich, the most significant advantage is timeliness and diversity. The teaching content of Ideological and political theory course in Colleges and universities should keep pace with the times and constantly update the teaching materials. Teachers of Ideological and political theory courses in Colleges and universities can search for teaching materials needed for ideological and political theory education and teaching in the huge treasure house of multimedia information resources. Timely update the teaching materials, closely contact with the social current affairs and political hot spots, stimulate college students' interest in learning the ideological and political theory course, let students experience the necessity of learning the ideological and political theory course in the rich resources. Integrating Ideological and political theory course into college students' life practice can effectively enhance the effectiveness of Ideological and political theory education and teaching in Colleges and universities, as shown in Figure 1.
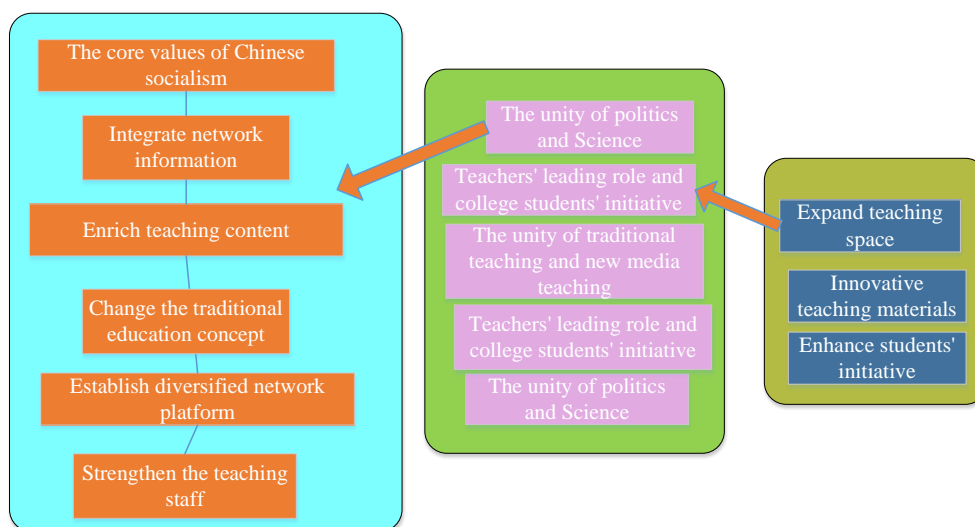
Fig.1 The Strategy of Dynamic Adjustment of College Students' Thinking

Therefore, in the era of multimedia, ideological and Political Theory Teachers in Colleges and universities should keep pace with the times, actively use multimedia technology in Ideological and political theory education and teaching, and make multimedia become a new way to spread ideological and political theory knowledge. In order to enhance the effectiveness of Ideological and political theory teaching in Colleges and universities, we should make full use of the richness and breadth of multimedia and the timeliness and effectiveness of information dissemination to optimize and update the classroom teaching materials of Ideological and political theory course to the greatest extent. Make the multimedia better serve the classroom teaching of Ideological and political theory course in Colleges and universities and the Extracurricular Autonomous Learning of college students, make college students interested in Ideological and political theory course, and achieve the goal of strengthening the education and teaching of Ideological and political theory course in Colleges and universities.

2.2 The Dynamic Innovation Strategy of College Students' Thoughts from the Perspective of Multimedia

With the development of multimedia, the means of Ideological and political work in Colleges and universities present the characteristics of integration and integration. In the past, a single means and way, relying on a single team, has been difficult to achieve the desired results. We must establish and improve the working mechanism, strengthen the integration of Ideological and political work methods, means and positions, and form a strong working force. The specific methods can be summarized as the following four points:

1)We should promote online education and offline education. In the multimedia era, the ideological and political education in Colleges and universities should explore the mechanism of combining "online guidance" with "offline education", promote the combination of online education and offline education, and combine "key to key" with "face to face", so as to enlarge the educational effect.

2)We should promote the interaction between mainstream education and service guidance. Colleges and universities should constantly understand the needs of college students, understand what they need, like and care about, and carry out mainstream ideological and political education according to the common needs of most college students. At the same time, we should also consider the needs of the minority. The Youth League Committee, propaganda department and social science

department can jointly set up official microblog, wechat and other public platforms in Colleges and universities, and design service columns on learning, life, psychology, making friends and other aspects in the official campus public platform, allowing college students to express their views and release information. Ideological and political educators in Colleges and universities should guide students to establish a correct outlook on life, values and the world through the interaction of mainstream education and service guidance, occupying the multimedia platform with positive and healthy ideology and culture.

3)We should promote the linkage between the ideological and political education team and opinion leaders. It is necessary to establish a high-quality network ideological and political education team with strong ideology and high level to supervise and manage the multimedia platform of Ideological and political education. The network ideological and political education team can be composed of relevant teachers from the Ministry of study and work, It can supervise, disseminate and clarify relevant information at any time, so as to ensure the healthy and upward guidance of public opinion in the multimedia position. At the same time, colleges and universities should also give full play to the talent advantages of famous teachers and professors, rely on the virtue and style of famous teachers to cultivate opinion leaders, and use the authority of leaders' discourse to guide students in relevant popular communities and grasp the initiative.

4)We should promote the joint action of dredging and blocking and specimen management. Colleges and universities should adopt the combination of dredging and blocking to screen the multimedia information, timely and correctly guide, supervise and regulate the students' network behavior, timely dispose the information that violates the national laws, guidelines and policies, and carry out ideological education for the college students who spread bad information. At the same time, it is also necessary to cultivate college students' self-discipline and self-awareness, not only to enhance the ideological and moral quality, but also to enhance the network civilization literacy, so that college students can use multimedia objectively and rationally.

3. On the Experiment of Dynamic Regulation of College Students' Thinking

In the era of multimedia, ideological and political education in Colleges and universities has absorbed a lot of Internet thinking. It makes the ideological and political education in Colleges and universities present more and more diversified characteristics. At the same time, it also stimulates the innovation and development of multimedia ideological and political education. In the era of multimedia, online distance education in the form of multimedia and other forms of online courses make the ideological and political education more colorful and more welcomed by the majority of teachers and students. In fact, if multimedia ideological and political education wants to get more diversified or multi angle and multi vision development, it must organically integrate many characteristics of the Internet into the traditional ideological and Political Education under the current "big data" background. So as to create a new mode of Ideological and political education.

3.1 Technical Methods and Experimental Process

Under the background of the current era, college students are often unable to carefully identify various trends of thought in the Internet, and are easily influenced by some wrong ideas. Especially in the face of some foreign incorrect ideas, these ideas are often covered with advanced, free coat, making college students think that is the right way. But they just ignore the actual national conditions and the current domestic and foreign environment. That's why we make the wrong judgment. Our ideological and political teachers in Colleges and universities should accurately base on this and carry out targeted ideological and political education according to the current college students' thoughts. We should accurately use Marx's political theory and carry out ideological and

political education in combination with the characteristics of current affairs and politics. We should innovate our ideological and political education methods to make students deeply aware of the correct theory, and combine the boring political theory with practice closely to make it easier to understand. Make from the original pure theory classroom to create a more innovative practice classroom, current affairs classroom. Accurately guide college students to understand the true correct political concept, learn to use the correct way of thinking.
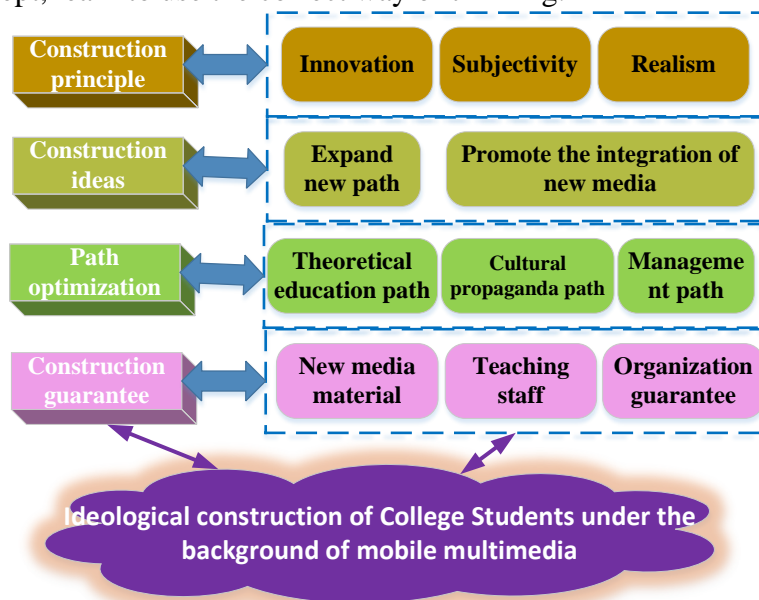

Fig.2 Ideological and Political Construction of College Students under the Multimedia Environment

At the same time, we should deeply realize that there are still many problems in the current ideological and political education, such as teaching is still very old-fashioned and boring. The teacher is just a simple retelling of the textbook knowledge, and does not have a deep and good fit for some good cases, a good way to explain to face the students. In addition, the current integration of Ideological and political education and the Internet is still too simple and shallow. In fact, we have to keep up with the development of the times. Only grasp the direction of the development of the Internet, the right medicine. Deep thinking and innovation of Ideological and political education and multimedia integration. College teachers themselves should have a sense of crisis and responsibility. We should face our career with an open mind, and really consider whether we have integrated the theory and practice of our ideological and political education, and whether it is vivid and easy to understand and welcomed by students. At the same time, their own ideological and political education methods and ideas are integrated into the development of the current multimedia era. Although some colleges and universities have made great achievements and progress in this aspect, it is an endless road. We need to constantly develop and improve, reform ourselves, keep up with the times and have the courage to innovate. We should have the courage to reform the backward and decadent ideas, sum up the existing experience, firmly grasp and correctly lead the development direction of Ideological and political education in the new era. The path of Ideological and political construction of College Students under the background of mobile multimedia is shown in Figure 3.
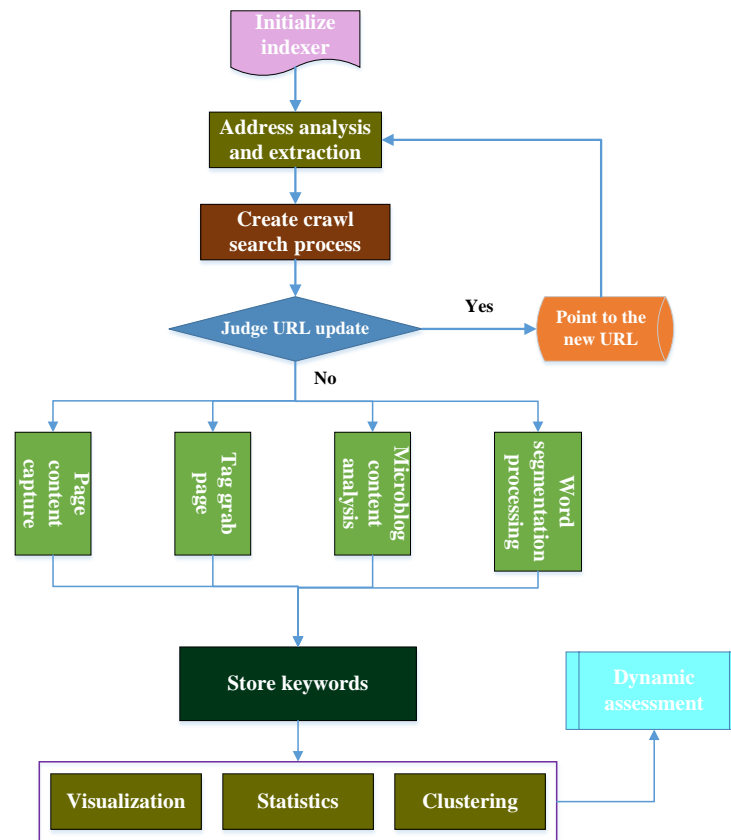
Fig.3 Experiment Flow Chart

The technical methods involved in this paper mainly include capturing microblog data and topic clustering technology. Crawling microblog data is mainly realized through web crawler calculation program, which mainly crawls official microblog user data, such as student association microblog, University official microblog, college official microblog and class microblog, etc. These users have great social influence and communication effect. Topic clustering technology mainly extracts keywords from the captured microblog data, and then uses its technology to cluster analysis to obtain the topic type. According to the topic type, we can master its ideological state and ideological fluctuation state. By clustering the keywords extracted from the topic into several categories, we can grasp the types of topics that college students care about, so as to grasp the ideological dynamics of college students.

The dynamic evaluation process of College Students' thoughts based on network media and data mining includes three parts: Micro blog information and comment capture, micro blog content analysis and keyword visualization. Micro blog information and comment capture mainly capture University micro blog, class micro blog and community micro blog; micro blog content analysis mainly includes micro blog page content analysis, keyword storage, etc.; keyword visualization mainly realizes the display of clustering keywords, and the experimental flow chart is shown in Figure 2.

K-means clustering algorithm adjusts the distance between data points and the center of each category through iterative operation and optimizes it. The principle of K-means clustering algorithm is shown in Figure 4.
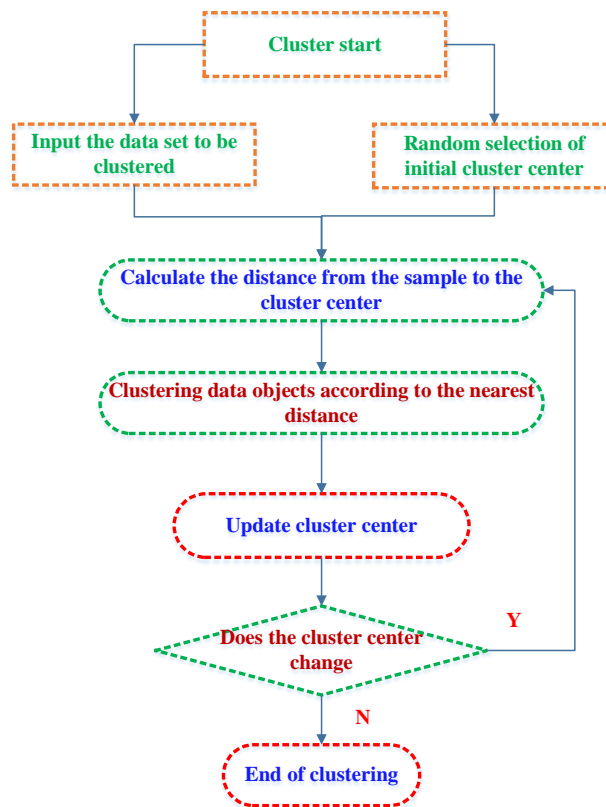
Fig.4 Schematic Diagram of Clustering Algorithm

3.2 Result Analysis

By dynamic analysis of the model, we can quickly grasp the ideological trends of college students, help them solve their psychological problems, and dredge their behavior norms. In order to improve the timeliness and reliability of Ideological and political education, this paper predicts their state of mind through the word cloud image and K-means cluster analysis model.

(1) Cloud picture of words and dynamic prediction of thoughts

By grabbing the microblog content and extracting keywords, the keywords are displayed through the word cloud. The higher the frequency, the larger the font. That is to say, the word is a hot topic discussed by college students. The words with high frequency during this period include the Olympic Games, gold medal list, Ma Rong and Rio, which indicates that universities mainly focus on Ma Rong's derailment and Rio Olympic Games during this period. The vocabulary related to learning includes examination, enrollment brochures, education and library, but the frequency of these words is not too high, which indicates that these problems have not yet become a hot topic. Through the analysis of word cloud diagram, we can timely grasp the ideological state of college students and carry out targeted ideological and political education.

(2) Analysis of clustering results

Because the word cloud map can only view the topic keywords macroscopically, it can't view the hot topics that college students pay attention to for a period of time. This paper uses K-means for cluster analysis, and the main results are shown in Figure 5.
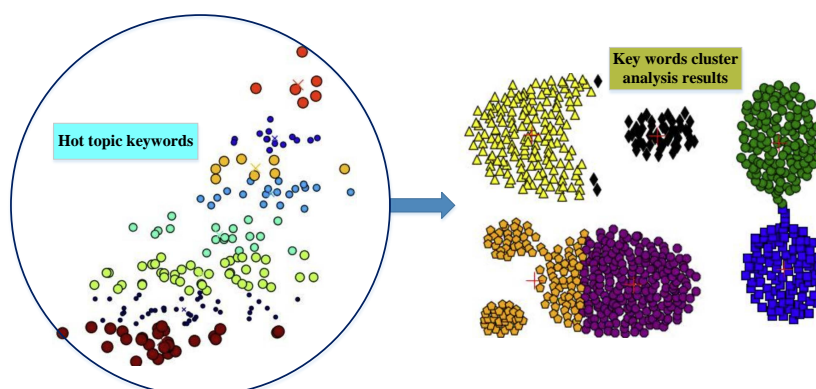
Fig.5 Cluster Analysis Results

4. Conclusion

With the rapid development of the Internet, new media has gradually come into people's vision, which has fundamentally changed people's behavior habits and ways of thinking. New media is a "double-edged sword". This double-edged sword can have a positive impact on the study and life of the University, but it will also bring some negative effects to college students. These factors not only bring convenience to the political education of college students, but also bring great challenges. Therefore, in the development of contemporary new media, how to use the form of new media to improve the basic literacy of college students, standardize college students' network behavior, and make ideological and political education better serve as a political means. In the face of the new trend, the research of College Students' Ideological and political education from the perspective of new media has irreplaceable value and significance, and it is also a complete system project. At present, standing at the forefront of the times, ideological and political educators in Colleges and universities also need to constantly update, constantly study new methods, and apply the research results to life and learning, which has a certain guiding force for life and learning.

References

[1] Chen Y . Design and implementation of college English learning management system based on mobile learning background[J]. Revista de la Facultad de Ingenieria, vol. 32, no. 9, pp. 285-290, 2017.

[2] Al-Mahrooqi R I , Denman C J . Assessing Students' Critical Thinking Skills in the Humanities and Sciences Colleges of a Middle Eastern University[J]. International Journal of Instruction, vol. 13, no. 1, pp. 783-796, 2020.

[3] He F . The integrated strategy of college students' innovative entrepreneurship education and professional education in the background of "double-first class" construction[J]. Revista de la Facultad de Ingenieria, vol. 32, no. 11, pp. 501-506, 2017.

[4] Tang Y , Guo K , Ma J , et al. A smart caching mechanism for mobile multimedia in information centric networking with edge computing[J]. Future generation computer systems, vol. 91, no. FEB, pp. 590-600, 2019.

[5] Yue T , Zou Y . Online Teaching System of Sports Training Based on Mobile Multimedia Communication Platform[J]. International Journal of Mobile Computing and Multimedia Communications, vol. 10, no. 1, pp. 32-48, 2019.

[6] Kim Y J . The Effects of Mobile-Assisted Language Learning (MALL) on Korean College Students' English-Listening Performance andEnglish-Listening Anxiety[J]. Studies in Linguistics, vol. null, no. 48, pp. 277-298, 2018.

[7] Kim B , Kim I . Multimedia Caching Strategy Based on Popularity in Mobile Ad-Hoc Network[J]. International Journal of Multimedia and Ubiquitous Engineering, 2015, vol. 10, no. 4, pp. 173-182, 2015.

[8] Chmiliar L , Anton C . Students with Disabilities: Mobile Device Ownership, Usage, and Perspectives on Mobile Learning[J]. Journal of educational multimedia and hypermedia, vol. 28, no. 1, pp. 39-55, 2019.

[9] Abimbade O , Adedoja G , Fakayode B , et al. Impact of mobile‑based mentoring, socio‑economic background and religion on girls' attitude and belief towards antisocial behaviour (ASB)[J]. British Journal of Educational Technology, vol. 50, no. 2, pp. 638-654, 2019.

[10] Al-Khresheh M H . The Impact of Cultural Background on Listening Comprehension of Saudi EFL Students[J]. Arab World English Journal, vol. 11, no. 3, pp. 349-371, 2020.