



The Influence of Diversified Teaching Modes on College Students' Comprehensive English Ability Under the Background of Mobile Internet

Xiaotian Zhang¹, Wang Zhao², and Yan Tang¹(✉)

¹ School of Western Languages, Harbin Normal University, Hain 150025, China

² Universiti Putra Malaysia, Kembangan, Malaysia

gs60525@student.upm.edu.my

Abstract. Technology has changed the mode of education and teaching. The mobile Internet model not only breaks the constraints of space and time, but also enables interaction and communication with famous teachers. This article analyzes the impact of diversified modes of teaching on college students' comprehensive English abilities in the context of mobile Internet from the three dimensions of student experience, comprehensive language skills and comprehensive language application capabilities, and explores the application value of mobile Internet in college English teaching.

Keywords: Mobile Internet · Diversified teaching mode · College students' comprehensive English ability

1 Introduction

The rapid development of modern information technology has caused tremendous changes in the world. It has changed the way people live, work and communicate, and affects the quality of education with its flexibility, convenience and effectiveness. The Internet provides learners with unprecedented learning opportunities. People can not only share learning resources, but also overcome the obstacles of time and space. All this brings new prospects for education and teaching. With the rapid development of network information technology, the concept of education has undergone tremendous changes. The goal of achieving rapid development of education in our country today is to promote the modernization of education with network information technology. For the foreign language teaching circle, the reform of information teaching has attracted more attention. The integration of information technology and courses is the dominant course learning method in the information age, and the integration of information technology and college English courses is an important way to promote the transformation of college English from traditional to modern teaching. As the country attaches great importance to education, it is particularly important to explore the impact of diversified teaching modes

in colleges and universities on the comprehensive English ability of college students in the mobile Internet environment to promote the development and reform of education in our country.

2 Research Purpose and Significance

Research Purpose: As a brand-new teaching form, the diversified college English teaching under the background of mobile Internet surpasses the traditional college English classroom teaching form with its openness, individuality and richness. At the same time, it has brought about the impact of teaching concepts, learning methods, teaching modes, etc., and has put forward new challenges to the teaching ability of teachers, students' autonomous learning ability and the scientific nature of the teaching environment. The main goal of this research is to explore the impact of the use of mobile social networks, flipped classrooms, cloud classrooms and other diversified teaching methods on the comprehensive English ability of college students by mining and transplanting the teaching functions of the mobile Internet.

Research Significance: From the perspective of the development law and trend of global education informatization, the realization of the in-depth integration of information technology and education and teaching is the key stage and the only way for the in-depth development of education informatization worldwide. It is also an important way and core move to realize the revolutionary impact of information technology on the development of education. How to achieve the in-depth development and high-level advancement of education informatization, how to transition from the initial application stage to the integration and innovation stage, and how to explore the effective path to promote the modernization of education through education informatization, are unavoidable arduous tasks and major issues that cannot be looked down upon in the field of education informatization. Because of the mobile internet technology gene and social activity value concept that mobile social network is rich in, its influence and effect on social and cultural dissemination have gradually become prominent. Undoubtedly, it has also become a brand-new social discourse system. For the comprehensive reform of the education field, as well as the overall concept and overall action of education informatization, there must be appropriate and close theoretical care and practical guidance. Therefore, to carry out research on the impact of diversified modes of teaching on the comprehensive English ability of college students based on the background of mobile Internet is not only a theoretical perspective that has a profound grasp of academic research levels such as social development, educational innovation, information construction, and higher education connotative development, but also has the value coupling to improve the quality and efficiency of practical applications such as the scientific layout, continuous promotion, and innovation of educational informatization.

3 Related Concepts and Literature Review

(1) Concepts and Research Related to Mobile Internet and English Learning.

In terms of foreign research, learning based on mobile social networks is mainly concentrated in the field of higher education, which is related to the fact that college

students generally have smart phones and prefer to socialize on the Internet. Therefore, relevant scholars have carried out research on the application of mobile social networks in education and teaching. Regarding the popularity of the Internet among young people, the well-known American survey organization Pew Research Center released a research report on the Internet and American Life Project in 2010. This report found that social media technology has become an important part of personal life. The ubiquitous social media technology is changing the way students communicate, collaborate and learn.

In terms of the application of the Internet to teaching research, Greenhow and Lewin (2016) constructed a social network learning space model that includes formal and informal learning attributes and forms, laying a corresponding theoretical foundation for the in-depth application of social networks in education in the future. Ahrens and Zascerinska (2015) conducted a research and analysis on the impact of students' attitudes towards distance learning using mobile social networks. Studies have shown that students' conception of distance learning and blended learning will dominate their attitudes towards learning using mobile social media. Tess (2013) pointed out that with the increasing appearance of social media in the field of higher education, many scholars generally believe that purposeful social media can be used as an integrated educational tool, and teachers can adjust and use social media technology. Enhancing their teaching process, at the same time, it can also promote students' active learning at the level of students' use. Tess (2013) pointed out that with the increasing appearance of social media in the field of higher education, many scholars generally believe that purposeful social media can be used as an integrated educational tool. Teachers can use social media technology to adjust and enhance their teaching process, and at the same time, it can also promote students' active learning at the level of student use.

In domestic research, the teaching application of mobile social network has only gradually emerged in recent years, and most of the previous researches are aimed at the discussion of traditional social networks. For example, Yang et al. (2010) analyzed the status quo of the online learning community and the characteristics of SNS, and based on this, proposed the basic model and constituent elements of the SNS-based learning community. And from the perspective of changes in the roles of members, the construction process of learning and sharing is explained. Feng (2010) discussed the important characteristics of the SNS-based postgraduate inter-school network learning community, the basic components of the community network platform and the basic principles of building the community, and then designed its organizational structure.

(2) Concepts Related to Comprehensive English Ability.

With the continuous deepening of reform and opening up, college English teaching in China has gradually formed its own teaching system. College English teaching has made great progress in various aspects such as teaching level, textbook construction, curriculum setting, teaching methods, teaching environment, and teaching staff. In the new century, college English teaching is also facing development opportunities and new challenges to a new level. Therefore, it is very important and urgent to explore the training mode of College Students' English and improve their comprehensive English application ability in order to promote the reform of College English teaching and establish a curriculum system and teaching mode suitable for personalized development.

Comprehensive English ability is the ability to “listen, speak, read, write, and translate” in English through the cultivation of multiple abilities. It includes language cognitive ability, reading comprehension ability, thinking ability, innovation ability, emotional understanding and expression ability, cross-cultural communication ability, etc., that is to say, the skills of “listening, speaking, reading, writing, and translation” in English. Exercising is based on these abilities. Only by cultivating students’ comprehensive abilities in language application, can students truly improve their Comprehensive language skills of “listening, speaking, reading, writing, and translation” in English.

1. **Cognitive ability:** refers to the ability of students to use pronunciation, word meanings, phrases, rhetoric, grammar, idioms, sentence structure, etc. to achieve the correct use of pronunciation, that is, a sublimation process of perceptual recognition of rational cognition. Students can consolidate the knowledge they have learned through preview, review, individual exercises and group exercises, connect the cultural differences between their mother tongue and foreign languages, create moods, stimulate associations, and have a thorough understanding and accurate use of the language they have learned.
2. **Reading ability:** Reading is a kind of language activity, and the ability shown in the reading process is called reading ability. The reading process is a dynamic and positive thinking process, as well as a process of interaction and reaction between old and new information in the human brain. It includes two aspects of form and content, forming an abstract image, and finally reaching the communicative intention of understanding the discourse. To have this ability requires students to have a rich knowledge structure, have an understanding of social culture, astronomy, geography, customs, literature and history, etc., so that students can not only understand the content mentioned in the text, but also be able to understand the content of the text. The proposed content is connected with the related content not mentioned in the text, to understand the connection between the language content and paragraphs, improve the thinking understanding and generalization ability, and promote the students’ understanding of the deeper meaning of the article.
3. **Thinking ability:** refers to the ability of students to evaluate the entire learning process, including textbook content, classroom teaching, and after-school exercises, so that students can correctly evaluate their own learning process and the degree of knowledge mastery. Thinking is based on the driving force, setting new goals and requirements for yourself. Through thinking, students can make self-assessment and adjustment of learning strategies in a timely manner and improve their ability to understand and solve problems.
4. **Innovative ability:** It is students’ creative thinking through existing knowledge in the process of language learning and application. It is required to train students to be bold in exploration, practice, bold ideas, independent thinking, actively participate in teaching content in classroom learning, enhance language accumulation and improve language application ability, instead of rigidly and passively accepting teaching content. This kind of innovation ability is based on the mastery of knowledge and skills, to explore newer and more effective learning methods, seek diversified learning strategies, and improve the ability of original problem-solving.

5. Emotional understanding and expression ability: Teachers need to adopt appropriate teaching methods to mobilize students' enthusiasm for learning, cultivate interest, and enhance self-confidence according to the differences in personality of students. At the same time, teachers need to inspire and guide students' thinking so that they can ask questions, analyze, summarize and summarize them during the learning process. In addition, the school should cultivate students' love of the motherland and life, broaden their international horizons, understand different cultures, and encourage students to experience unfamiliar emotions and corresponding language expressions, and be able to carry out effective language through language learning and application activity.
6. Cross-cultural communicative competence: Language is a communicative tool. The purpose of any language teaching is to cultivate students' ability to communicate in written or oral ways. And effective communicative competence includes language input and output. This requires students to have the ability to express their own cultural concepts and behaviors, to deepen their understanding of other cultures in the world, to learn from and absorb the essence of foreign cultures, to achieve the purpose of mutual communication and mutual learning, to have the ability to communicate with foreigners in correct language and behavior, and to generate effective communication and resonance in language and thought.

To sum up, it is a prerequisite for college students to have comprehensive English ability, and it also requires students to have the ability to learn by themselves and master learning strategies. It is a process from quantitative change to qualitative change for students to transform the knowledge they have learned into practical language application ability. This process can only be completed through a lot of language practice by the students themselves, which includes different learning modes (individual, group, multimedia) and learning strategies.

(3) Current Research Status of Foreign Language Proficiency Standards at Home and Abroad.

The definition and exploration of foreign language proficiency standards on a global scale has a history of more than sixty years. Through comprehensive elaboration of various documents, the mainstream standards of foreign language proficiency are mainly divided into: examples of proficiency levels mainly used in the United States, The cross-grade continuous scale used in the United Kingdom and other European developed countries, and the grade-by-grade achievement map represented by Australia. In the first half of the 20th century, the ISLPT standard was proposed under the guidance of behaviorism and structuralism. From the formulation of listening, speaking, reading, and writing standards in the early stage to the evaluation of translation ability in the later stage, this standard uses language knowledge as an indicator for evaluation. Taking the 1980s as the dividing line, the foreign language proficiency standard mainly relied on the input-driven form before that, and then gradually evolved into the output-driven. Among them, the United States has promoted the cultivation of foreign language ability to a strategic height, and through the cultivation of national foreign language ability, it has promoted the cultural combat effectiveness and core competitiveness of the nation. At the end of the last century, the United States put forward the "5C" competency standards: culture, communication, comparison, colony and correlation in five aspects, and established

the strategic position of foreign language teaching in national education. The ALTE competency standard system is the first to propose the use of communicative competence as a part of language competence. On the basis of the traditional four major competence measurement, the test of communicative pragmatic competence is added, which is of innovative significance. After that, foreign language communicative competence has become an important part of language competence standards. Among them, Heimsky's communicative competence theory is the most famous, which played an important role in related language research later. Whether it is basic education or higher education, the quality of education has always been the focus of social concern, and no matter at which stage, the core standard of foreign language ability is the cultivation of communicative application ability.

The definition of foreign language competence standards in our country started relatively late. For a long time, there is no clear foreign language competence standard system. It only evaluates and analyzes the students' learning conditions based on the foreign language courses and syllabus and training objectives of each stage. The definition and explanation of foreign language ability standards are mainly concentrated in related documents and outlines such as "Graduate English Course Teaching Requirements" and "English Course Standards". The 2007 "Teaching Requirements" described the foreign language ability of graduate students: able to understand and accept lectures in English, fluent in English for communication and discussion during the learning process, and complete writing tasks, and have a higher English ability for graduate students than before. The "Planning Outline" also proposes to train international talents who can meet the needs of international development and can cope with international competition. The core criteria of talents are to have an international vision, adapt to international rules, and be able to handle international affairs smoothly.

4 Research Process

The questionnaire method is that the survey implementer reasonably designs the questionnaire structure, items and answers on the basis of clarifying the purpose of the survey and the main survey content, and distributes the questionnaire to the appropriate survey subjects, and obtains the status quo, questions, suggestions, etc. of the relevant issues according to the feedback of the survey subjects. This research takes four classes of freshman students in Harbin Normal University as a sample, and takes the impact of diversified teaching modes on the comprehensive English ability of college students under the background of mobile Internet as the starting point. This research combines quantitative and qualitative investigations from three dimensions: student experience, comprehensive ability of language skills, and comprehensive ability of language application.

There are two types of tool sentence software involved in the survey process. One is a questionnaire implementation tool, and the other is a statistical analysis tool for statistical questionnaire results. In terms of questionnaire implementation tools, the questionnaire use "Questionnaire Star <https://www.wjx.cn/newwjx/manage/myquestionnaires.aspx>" to implement online surveys, mainly considering the fact that it is difficult for college students and teachers to fill in collectively. The website provides functions such as questionnaire production and release, statistics, etc. The questionnaire can be

answered through mobile WeChat, computer online and other platforms, and detailed basic data statistics can be provided according to the situation of each question. In terms of questionnaire results statistics and analysis tools, SPSS statistical software is used.

5 Data Analysis

(1) Reliability and Validity Test.

The quality of the questionnaire is generally considered through two perspectives: the reliability value and the validity value of the measurement data. Reliability refers to the degree of internal data consistency, and validity refers to the degree of data validity. Generally, the reliability refers to the judgment by observing the a value of the data. It is generally considered that a value between 0.8 and 0.9 is an acceptable range value, and the reliability above 0.9 is very good. The general validity value is judged by the KMO value of the observation data, that is, the KMO value is obtained by the KMO and Bartlett sphericity test. It is generally believed that the KMO value is above 0.7 and the questionnaire has passed the validity test, and the scale data is suitable for factor analysis.

The questionnaire of this research is based on the standardized item Cronbach's coefficient $\alpha = 0.909$. The Cronbach's coefficient α of "Student Experience" is 0.912, the Cronbach's coefficient α of "Comprehensive Ability of Language Skills" is 0.903, and the Cronbach's coefficient α of "Comprehensive Ability of Language Application" is 0.914, both of which are greater than 0.9, indicating that the project is internal There is a high degree of consistency. As shown in Table 1, the KMO value obtained is 0.703 greater than 0.7, which passes the validity test.

Table 1. Cronbach's coefficient test

KMO	0.703
Questionnaire category	Cronbach's alpha
Student experience	.912
Comprehensive ability of language skills	.903
Comprehensive language application ability	.914

(2) Questionnaire survey data analysis.

Aiming at the improvement of college students' comprehensive English ability by the diversified teaching mode under the background of mobile Internet, the author conducted a questionnaire survey on three items in the dimension of student experience, namely to increase interest, concentration and efficiency. The results of the questionnaire are shown in Table 2. It can be seen from the table that the proportions of students who choose "conformity" and "very conformity" from the three perspectives of increasing interest, concentration and efficiency are 67.3%, 50.32%, and 56.6%, respectively. Among them, more than 65% of the positive options are selected from the perspective of increasing

learning interest, and less than 60% are selected from the perspective of improving concentration and learning efficiency. This phenomenon shows that the diversified mode of teaching under the background of the mobile Internet is effective in enhancing students' interest, but the effectiveness in the two perspectives of concentration and efficiency is average.

Table 2. Results of the questionnaire survey on the dimensions of student experience

Question type	Very non-conforming	Non-conforming	Difficult to determine	Conforming	Very conforming
1. Increase interest	6.29	6.29	20.13	52.83	14.47
2. Improve focus	7.55	16.98	25.16	36.48	13.84
3. Improve efficiency	8.18	8.81	26.42	41.51	15.09

Aiming at the improvement of college students' comprehensive English ability by diversified teaching models under the background of mobile Internet, the author conducted a questionnaire survey of 5 items in the comprehensive language skills dimension, namely improving listening, speaking, reading, writing, and translation. The results of the questionnaire are shown in Table 3. It can be seen from the table that the proportions of students who choose "conformity" and "very conformity" in improving the five language skills of listening, speaking, reading, writing and translation are 74.84%, 62.89%, 61%, 54.09%, 57.23% respectively. Among them, the improvement of listening ability is the most obvious, and the improvement of writing and translation ability is generally effective.

Table 3. Questionnaire results of comprehensive language skills

Question type	Very non-conforming	Non-conforming	Difficult to determine	Conforming	Very conforming
4. Listening	5.66	4.4	15.09	55.97	18.87
5. Speaking	5.66	10.06	21.38	45.91	16.98
6. Reading	6.92	8.81	23.27	45.28	15.72
7. Writing	6.29	14.47	25.16	40.88	13.21
8. Translation	7.55	8.18	27.04	42.14	15.09

Aiming at the improvement of college students' comprehensive English ability by diversified teaching modes under the background of mobile Internet, the author conducted a questionnaire survey of 7 items in the dimension of comprehensive language

application ability. They are to improve language cognitive ability, text comprehension ability, thinking ability, innovation ability, cultural understanding ability, expression ability and cross-cultural communication ability. The results of the questionnaire are shown in Table 4. It can be seen from the table that the proportions of students who choose “conformity” and “very conformity” in the 7 language application comprehensive ability are 66.67%, 79.24%, 69.18%, 73.59%, 71.7%, 69.81, 70.44, respectively. All of them are higher than 65%, indicating that the diversified teaching mode under the background of mobile Internet has a significant effect on improving the comprehensive ability of college students in English language application.

Table 4. The results of the questionnaire survey on the comprehensive ability of language application

Question type	Very non-conforming	Non-conforming	Difficult to determine	Conforming	Very conforming
9. Language cognitive ability	5.66	3.77	23.9	49.69	16.98
10. Text comprehension ability	3.77	3.77	13.21	57.23	22.01
11. Thinking ability, innovation ability	3.77	6.29	20.75	50.94	18.24
12. Cultural understanding ability	3.77	6.29	16.35	55.35	18.24
13. Expression ability	3.77	7.55	16.98	53.46	18.24
14. Cross-cultural communication ability	4.4	5.66	20.13	52.83	16.98
15. Language cognitive ability	5.03	7.55	16.98	51.57	18.87

6 Conclusion

To sum up, in college English teaching, diversified teaching mode under the background of mobile Internet plays an important role. It can not only effectively mobilize students' enthusiasm and interest in learning, but also can effectively exercise the students'

comprehensive English ability. In terms of language skills and abilities, diversified teaching methods under the background of the mobile Internet have significant effects on the improvement of students' listening, speaking, and reading abilities, with the most significant improvement in listening ability. In terms of the comprehensive ability of language application, the diversified mode of teaching under the background of mobile Internet has obvious effects on the improvement of students' speech cognition, text understanding, thinking ability, innovation ability, cultural understanding, expression ability, and cross-cultural communication ability. Therefore, it is necessary to conduct a comprehensive research on the teaching mode of diversified teaching mode under the background of mobile Internet, so that it can play its role in college English teaching, and then provide more new ideas for the new development of the education industry in the 5G era.

Acknowledgements. 1. Heilongjiang Province Educational Science Planning Project: Research on the Application of Output-Oriented Method in Oral English Teaching in Senior High Schools (Project Number: JJB1319002).

2. Harbin Normal University Postgraduate Training Quality Improvement Project.

References

- Ahrens, A., Zasćerinska, J.: A comparative analysis of educator's and peers' influence on students' attitude to mobile social media in distance learning. *Literacy Inform. Comput. Educ. J.* **6**(1), 1289–1298 (2015)
- Feng, X.: Research on the Establishment of an SNS-based Inter-school Network Learning Community for Postgraduate Students. Nanchang University, Nanchang (2010)
- Greenhow, C., Lewin, C.: Social media and education: reconceptualizing the boundaries of formal and informal learning. *Learn. Media Technol.* **41**(1), 6–30 (2016)
- Tess, P.A.: The role of social media in higher education classes (real and virtual)—a literature review. *Comput. Hum. Behav.* **29**(5), 60–68 (2013)
- Yang, H., et al.: Research on the construction of SNS-based network learning community. *Mod. Educ. Technol.* **5**, 95–98 (2010)