Using Flipped Classroom to Enhance Mandarin Speaking Skills: A Systematic Literature Review

Li Meijing Nurhasmiza Abu Hasan Sazalli, Nuraqilah Nadjwa Miskam

Universiti Teknologi Malaysia, Malaysia

Email: limeijing@graduate.utm.my

Abstract

Flipped classroom has become one of the latest teaching and learning strategies for teaching Mandarin speaking skills in China. However, there is a lack of comprehensive research on the status of Chinese undergraduates' use of flipped classrooms to learn Mandarin speaking skills. To address this gap, this paper provides a systematic review of research findings related to the use of flipped classrooms in learning Mandarin speaking skills among undergraduates published between 2013-2023. Guided by the PRISMA statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), the systematic review was conducted using the China national knowledge internet (CNKI), Wanfang Data, and VIP databases, and a total of 20 articles were screened to identify relevant research. The findings indicated that research on the use of flipped classrooms to learn Mandarin speaking skills by Chinese university students is in its infancy, with fewer studies on flipped classrooms in terms of fluency, pronunciation, vocabulary, and organization of Mandarin speaking skills , and most of the studies focusing on curriculum design, teaching resources, and classroom interactions in the use of flipped classrooms to learn Mandarin speaking skills The research findings also emphasized the challenges faced by Chinese university students in using the flipped classroom to improve their Mandarin speaking skills. There is still room for improvement in this research by narrowing down the scope of the review as a direction for future research on Mandarin flipped classrooms and practicing different search techniques such as snowballing, citation tracking and reference searching.

Keywords: Flipped Classroom, Mandarin Speaking, Chinese Students, Systematic Literature Review

Introduction

The Chinese Government attaches great importance to the teaching of Mandarin in Chinese institutions. The Law of the People's Republic of China on National Common Language and Writing Systems, adopted by the Standing Committee of the Ninth National People's Congress at its eighteenth meeting (2000), clearly stipulates that Mandarin is the official language and

script of China and that the State supports Mandarin and standardized Chinese characters. Mandarin is also the official language of China. Mandarin is the main language of education and teaching in schools and other educational institutions. Mandarin is the primary language for radio and television hosting and broadcasting. The Chinese Ministry of Education (2014) requires graduates of Chinese language programs at applied universities to meet the requirements of Level 2A of the Chinese Mandarin Proficiency Test before graduation. Chinese majors in applied universities aim to cultivate applied talents as their teaching goal (Ministry of Education of China, 2019), and whether students' Mandarin is up to standard is closely related to their future employment and development. Chinese universities specializing in broadcasting and hosting generally require students to graduate with a Level 1B in Mandarin speaking.

In recent years, the flipped classroom has been utilized in the learning of Mandarin speaking skills. Zhou and Cheng (2020) analyzed the application of flipped classroom in Mandarin teaching and believed that the traditional teaching mode of Mandarin has many drawbacks and reform is imperative. Wang (2021) believes that Mandarin speaking is a course with strong practical and applied colors. However, looking at the classrooms of various applied colleges and teacher training colleges, it basically stays in the mode of teachers teaching the basics and students repeated mechanical training. Flipped classroom provides a new direction and path to effectively solve the bottleneck issues encountered in the traditional teaching mode. A flipped classroom teaching model for Mandarin courses is constructed with a view to providing a reference for the reform of Mandarin teaching. Although research on the use of flipped classroom for Mandarin speaking skills learning has emerged, Only a few have conducted a systematic literature review, and this research will fill this gap.

Towards a Systematic Review Framework on the Use of Flipped Classroom to Enhance Mandarin Speaking Skills among Chinese University Students

A literature review is an important insight into an academic topic. It brings together published research on a topic, surveys different sources of research and critically examines these sources (Fink, 2019). A literature review can be argumentative, integrative, historical, methodological, systematic, or theoretical, and the adoption of these approaches depends on the type of analysis of the research (Onwuegbuzie & Frels, 2016). With systematic research, authors are justified in conducting rigorous research so that they can identify gaps and suggest directions for future research. Although there have been studies on flipped classrooms in improving Chinese college students' learning of Mandarin speaking skills, attempts to systematically review these studies are still limited. Therefore, this research will fill in the gaps in terms of the characteristics of the Mandarin speaking program, the differences between the flipped classroom and the traditional classroom, the status of using the flipped classroom to learn Mandarin speaking skills, and the challenges that students faced when using the flipped classroom.

Methodology

This section discusses the methodology used to retrieve and collect articles about Chinese undergraduates using flipped classrooms to learn Mandarin speaking skills. The researcher used the PRISMA methodology, including the resources used to run the systematic evaluation, the eligibility and exclusion criteria, the steps of the research process (identification, screening, eligibility, review), and data extraction and analysis.

PRISMA

PRISMA Statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)) is used as a guide for the review process. PRISMA has been frequently used by researchers in the fields of education and language. Sierra-Correa and Kintz (23) assert that there are three clear benefits of using PRISMA as a guide for review articles, (1) it defines clear research questions and allows for systematic research, (2) it identifies inclusion and exclusion criteria, (3) it attempts to examine large databases of scientific literature over time. PRISMA Statement allows for rigorous research on the role of the flipped classroom in improving Mandarin speaking skills of Chinese undergraduates and its role in improving students' Mandarin speaking skills.

Resources

After a preliminary screening of Google Scholar, Scopus and Web of Science(Wos), the researcher chose the China National Knowledge Internet (CNKI), Wanfang Data and VIP database (the three major Chinese journal databases) as the databases for this review. This is because the researcher found that there are very few articles about Mandarin speaking skills in Scopus and WoS, which is not enough for a systematic literature review, and the main content of this research is Mandarin learning, the research subjects are Chinese college students, and most of the research is conducted in China, so it is more in line with this research to adopt Chinese databases for screening and analyzing. In Google Scholar, the researcher retrieved a large number of documents using CNKI, Wanfang Data and VIP databases, which shows that it is permissible to use Chinese databases to conduct a systematic literature review.

CNKI is a powerful database that allows comprehensive searches of Chinese and foreign journals. There are more than 8450 Chinese academic journals, including more than 1970 Peking University core journals and more than 2470 online journals dating back to 1915, with a total of more than 60 million full-text articles. Foreign-language academic journals include more than 75,000 journals from more than 900 publishers in nearly 80 countries and regions, covering 96% of JCR journals and 90% of Scopus journals dating back to the 19th century, with more than 126 million foreign-language journals available for full-text linking.

The data of Wanfang Data comes from China Online Journals (COJ), which was started in 1998 and contains more than 8,000 journals, including more than 3,300 core journals collected by Peking University, China Institute of Science and Technology Information, Center for Documentation and Intelligence of the Chinese Academy of Sciences, Nanjing University, and the Chinese Academy of Social Sciences, with an increase of 3 million journals annually, updated every day, and covering more than 3,000 journals, with an increase of 1,000,000 titles. There are more than 3,300 core journals in the collection of Peking University, Chinese Academy of Sciences Literature and Information Center, Nanjing University and Chinese Academy of Social Sciences, with an annual increase of 3,000,000 journals, which are updated every day, covering various disciplines such as natural sciences, engineering and technology, medicine and health, agricultural sciences, philosophy, political science and law, social sciences, science, education, literature and art.

VIP database was established in 2000, after 22 years of commercial construction, it has become a world famous Chinese information service website, the largest comprehensive literature service network in China, and become a heavyweight partner of GOOGLE search, and the largest Chinese content cooperation website of Google Scholar. Wipro has included 400 kinds of Chinese newspapers, more than 12,000 kinds of Chinese periodicals, and more

than 6,000 kinds of foreign periodicals; the total amount of cited data has reached 15 million articles, 30 million page times, and has more than 5,000 fixed customers, which is a leading position in the domestic counterparts. WFD has become an essential tool and an important source of information for China's library and intelligence, educational institutions, scientific research institutes and other systems.

The researchers identified a number of eligibility and exclusion criteria. First, in terms of type of literature, journals that publish articles with empirical data were selected for this research. This means that review articles, books, chapters in books and conference proceedings were excluded. Second, this review only focuses on articles published in Chinese. This is because in CNKI, Wanfang Data and VIP database articles researching the teaching of Mandarin speaking are basically all from Chinese journals. Third, in terms of timeline, the articles were selected to span from 2013 to 2023, which is a 10-year period sufficient for observing the evolution and trend of research. Since this research only focuses on the status of flipped classroom on Chinese undergraduates' ' Mandarin speaking skills, only articles in the social science index are selected for this research (see Table 1).

Table 1
Inclusion and exclusion criteria

Criterion	Eligibility	Exclusion
Literature type	Journal (research articles)	Journals (systematic review), book series, book, chapter in book, conference proceeding
Language	Chinese	Non-Chinese
Timeline	Between 2013-2023	<2013
Indexes	Social Science Citation Index, Emerging Sources Citation Index, Art and Humanities Index (CNKI,WANFANG DATA,VIP)	Science Citation Index Expanded
Countries and territories	China	Non-China and countries

Systematic Review Process
The systematic review process was divided into four phases. The synthesis process was conducted in October 2023 . The first phase identified the keywords used in the search process. Based on previous research and the thesaurus, keywords similar and related to Mandarin and flipped classroom were identified (Table 2). Since the researcher searched Chinese journals in Chinese databases, the researcher invited English teachers from a Chinese university to verify the translation of the keywords in order to ensure the accuracy of the translations.

Table 2

The search string used for the systematic review process.

Databases	Keywords used
CNKI	SU=('普通话'+'普通话口语')*'翻转课堂' (Translate: SU=('Mandarin'+ 'Mandarin speaking')*'flipped classroom'*'higher education')
WANFANG DATA	(普通话 or 普通话口语) and 翻转课堂 (Translate: SU=(Mandarin or Mandarin Speaking) and Flipped Classroom)
VIP	M=(普通话 or 普通话口语) and 翻转课堂 (Translate: M=(Mandarin or Mandarin Speaking) and Flipped Classroom)

The second stage was screening. In this stage, a total of 5 articles were excluded from the 70 articles eligible for review. The third stage was eligibility screening, i.e., reviewing the full text of the articles. After careful review, a total of 45 articles were excluded because some of them did not focus on Mandarin or Mandarin speaking or did not use the flipped classroom. After the final stage of review, a total of 20 articles were used in the analysis (see Figure 1).
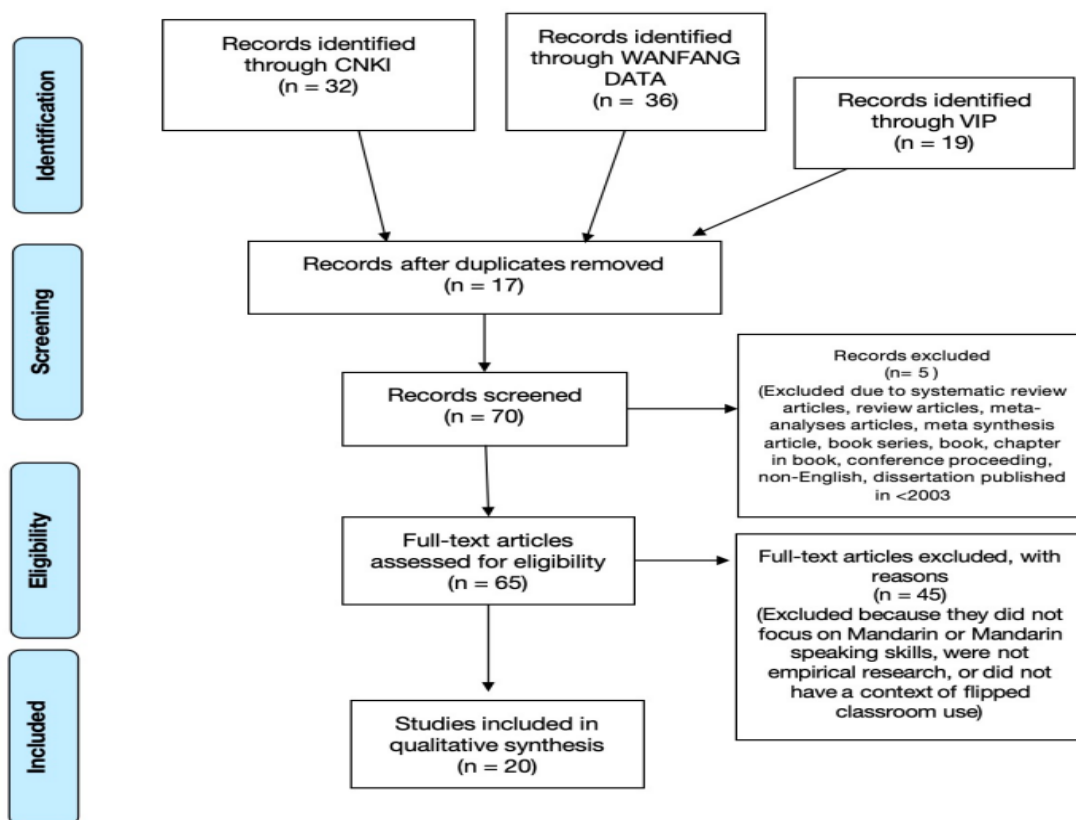

Figure 1: PRISMA flow diagram

Data Abstraction and Analysis
Table 3 lists the relevant applications of flipped classroom in teaching Mandarin. The researcher will conduct narrative summarization. In systematic evaluation, narrative

summarization is usually used in conjunction with systematic search and evaluation techniques. It will combine quantitative and qualitative data using narrative juxtaposition to provide clearer, more comprehensive and generalized evidence. The numbering in the following text is based on the numbering in Table3 and is not related to the reference list

Table 3
Summary of Reviewed Studies

	Author	Characteristics of Mandarin Speaking				Flipped Classroom vs. Traditional Classroom					Using Flipped Classroom Learn Mandarin							Challenges			
		Accurate pronunciation	Fluent in expression	Dialectal influence	Practicality	Teacher role flip	Student role flip	Class time	Learning space	Independent learning	Feasibility	Course design	Necessity	Effectiveness	Teaching resources	Classroom interaction	Evaluation assessment	Curriculum design	Student habits	Teacher ability	Technology
1	Zhou & Cheng (2020)	/				/	/	/			/	/									
2	Wang (2017)	/		/											/	/	/				
3	Liu and Zhang (2016)					/	/				/	/		/	/			/	/		
4	Li & Zhang (2016)		/	/	/	/	/	/	/	/		/			/	/	/				
5	Wang (2021)	/			/				/	/		/	/		/	/	/				/
6	Zhou & Yi (2018)	/		/		/	/	/	/	/		/									
7	Yu (2019)	/		/											/	/					
8	Chen (2015)			/		/	/					/			/						
9	Wang & Yang (2018)	/				/	/			/		/			/	/	/				
10	Zhou (2020)									/		/			/	/	/	/	/	/	
11	Zhou (2020)	/		/					/			/			/		/			/	/
12	Xing & Lin (2016)					/				/					/		/				
13	Liu & Zhang (2018)				/							/	/		/						
14	Li (2018)	/	/	/		/	/	/	/	/	/	/			/					/	/
15	Zhang (2020)		/			/				/		/			/	/	/				
16	Chen (2017)	/									/	/								/	/
17	Luo (2021)	/		/							/	/			/	/	/				
18	Tan (2015)	/		/		/						/			/	/					
19	Gao et.al (2021)	/	/				/		/			/			/	/	/				

2 0	Jing (2021)	/							/		/			/	/	/				

Results

The results of the review are presented to show the current status of the application of flipped classroom in learning Mandarin speaking skills. The results are categorized under four themes; characteristics of Mandarin speaking skills, comparison between flipped classroom and traditional classroom, current situation of students using flipped classroom in learning Mandarin speaking skills, and the challenges they faced. The results of the research comprehensively analyze the use of the flipped classroom to improve Chinese undergraduates' Mandarin speaking skills.

Characteristics of Mandarin Speaking Skills

Lastly, the researcher consulted 20 articles. While the titles of every article discussed Mandarin or Mandarin speaking, six of the articles （Liu and Zhang, 2016 ;Chen, 2015; Zhou, 2020; Xing & Lin, 2016; Liu & Zhang, 2018; Zhang, 2020) did not center on Mandarin speaking; rather, their primary analysis was on flipped classroom research. For example, Liu and Zhang (2016) conducted research around the feasibility of implementing a flipped classroom in a Mandarin speaking course and its application in the course, but did not discuss the characteristics of a Mandarin speaking course. A total of 14 articles mentioned the characteristics of learning Mandarin speaking skills, and these 14 articles all mentioned the issue of accurate pronunciation, and considered that the current university students' learning of Mandarin speaking mainly suffers from the issue of inaccurate pronunciation (Zhou & Cheng, 2020; Wang, 2017; Li & Zhang, 2016; Wang, 2021; Zhou & Yi, 2018; Yu, 2019; Wang & Yang, 2018; Zhou, 2020; Li, 2018; Chen, 2017; Luo, 2021; Tan, 2015; Gao et.al., 2021; Jing, 2021). Two articles mentioned the fluency of Mandarin speaking skills as a very important part of learning Mandarin speaking skills (Li & Zhang, 2016; Gao et.al., 2021). Three articles mentioned that Mandarin speaking course is a more practical course, and considered that learning Mandarin speaking skills is different from other theoretical course learning, which focuses more on students' practical performance (Li & Zhang, 2016; Wang, 2021; Liu & Zhang ,2018). There are 10 articles focusing on the influence of dialects on university students' Mandarin speaking skills. Wang(2021)said in her study, students in China's colleges and universities come from all over the country, and due to the influence of geography, history and other reasons, the overall language environment of the school is relatively poor, and a variety of dialects fill students' lives, inevitably interfering with students' poor Mandarin speaking skills, which highlights the importance of learning Mandarin speaking skills even more (Wang, 2017; Li & Zhang, 2016; Zhou & Yi, 2018; Yu, 2019; Chen, 2015; Zhou , 2020; Li, 2018; Zhang, 2020; Luo, 2021; Tan, 2015).

Flipped Classroom vs. Traditional Classroom

Among the 20 selected articles, 15 articles individually mentioned the comparison between flipped classroom and traditional classroom, which mainly contained content related to teacher roles, student roles, classroom time, learning space, and self-directed learning. A total of 10 articles mentioned the flipped teacher role [1,3,4,6,8,9,12,14,15,18], and 8 articles mentioned the flipped student role [1,3,4,6,8,9,14,18]. During the teaching process of the traditional Mandarin curriculum, teachers are the dominant knowledge transmitters and students are the passive knowledge receivers. This traditional teaching mode leads to a lack

of effectiveness in student learning, a lack of communication in the learning process, and a lack of feedback and communication between teaching and learning(Zhou & Cheng,2020). Liu and Zhang(2016) mentioned in their study, Mandarin flipped classroom teaching uses an information-based teaching platform for pre-study before class, practice during class, and enhancement after class, effectively changing the original learning mode. Flipped classroom teaching design is student-centered, and attaches importance to the design of resources that promote students' independent learning; teachers change from knowledge transmitters to organizers, and students change from passive learning to active participation. Four articles mentioned the change of classroom time [1,4,6,14], and six articles mentioned the transformation of learning space (Li & Zhang, 2016; Wang, 2021; Zhou & Yi, 2018; Zhou, 2020; Li, 2018; Gao et.al, 2021). Flipped classroom teaching uses the teaching informationization platform to carry out classroom teaching activities, using the three phases before, during and after class to break through the limitations of time and space, to realize students' subjectivity and participation, and to realize the interactive exchanges between teachers and students, between students and students, and between students and students, and online interaction and communication at all times, so as to promote the initiative and enthusiasm of students' independent learning. There are nine articles discussing student independent learning [4,5,6,9,10,12,14,15,20]. Zhou and Yi(2018) mentioned in their study, flipped teaching mode allows students to independently choose the study time, study place, study content, study progress, etc. according to their own situation, without too many constraints, they are the masters of their own learning, and they can take the initiative in choosing and arranging. Learning in this relaxed and free environment, students' motivation and learning efficiency will be improved.

Using Flipped Classroom Learn Mandarin Speaking
Using a flipped classroom for Mandarin speaking learning is the focus of this article, and the 20 articles that were screened all focused on this element of research. Four articles discussed the feasibility of using a flipped classroom for Mandarin speaking learning [1,3,14,16,17]. Chen(2015) said, China vigorously promotes Mandarin, and local colleges and universities, as the main position for the promotion of Mandarin, bear an important responsibility, which undoubtedly puts forward higher requirements for local colleges and universities to carry out the teaching of Mandarin courses. With the deep penetration of science and technology in the field of education, new teaching media and learning tools have been greatly promoted and popularized, and students can acquire knowledge through more ways, such as through mobile learning terminals, cell phones, computers and other ways to acquire knowledge(Hassan, 2021). The "flipped teaching" conforms to this point, which makes students' learning become diversified, so that students can obtain more information, so that they can really become the master of the classroom and extracurricular learning, and make the form of learning richer and more interesting（Qi et al.，2001）.
The articles mentioning teaching design are the most, totalling 17 (Zhou & Chen, 2020; Liu & Zhang, 2016; Li & Zhang, 2016; Wang, 2021; Zhou & Yi, 2018; Chen, 2015; Wang & Yang, 2018; Zhou, 2020; Zhou, 2020; Liu & Zhang, 2018; Li, 2018; Zhang, 2020; Chen, 2017; Luo, 2021; Tan, 2015; Gao et.al, 2021; Jing, 2021). The traditional mode of teaching Mandarin is the lecture-practice teaching mode, that is, the teacher explains the knowledge points in the classroom, teaches the learning methods, and gives certain demonstrations of the parts that need to be emphasized, while the students follow the teacher's demonstration to read aloud and practice. Due to the varying levels of teachers and the limitations of teachers' mastery of

knowledge points, teachers' demonstration and demonstration effect may not be the best(Zhou,2020). Zhang(2020) thinks, the flipped classroom, on the other hand, effectively plans the teaching process, plans the knowledge points that students should study before learning Mandarin, and students can watch the video to practice against it, which can effectively reduce the teacher's classroom teaching time, thus facilitating the teacher to check the students' pre-study situation before the class, and correct each student's pronunciation of Mandarin. After the whole class has practiced without any issues, the teacher can let the students proceed to the next stage of learning. This kind of teaching method enables teachers and students to communicate better with each other, so that students can fully master the skills of practicing Mandarin.

Only one article mentioned the necessity of using the flipped classroom for Mandarin speaking skills (Wang, 2021), but the researcher believes that the necessity is more worthy of research than the feasibility. Due to the influence of the social environment, the Mandarin speaking course itself requires a change of teaching mode. The flipped classroom is essential for Mandarin speaking because students, who make up the majority of the learning population, require a variety of instructional approaches. Additionally, multimodal teaching and flipped classrooms have a strong affinity.

Teaching resources for using flipped classroom for speaking Mandarin was also one of the most mentioned components with 16 articles (Wang, 2017; Liu and Zhang, 2016; Li & Zhang, 2016; Wang, 2021; Yu, 2019; Chen, 2015; Wang & Yang, 2018; Zhou, 2020; Zhou, 2020; Xing & Lin, 2016; Li, 2018; Zhang, 2020; Luo, 2021; Tan, 2015; Gao et.al., 2021; Jing, 2021). In the section on teaching resources, video courses were mentioned the most. Researchers agreed that high-quality video lessons, also called "micro-lessons" in some researches, are important for students to learn theoretical knowledge. Knowledge transfer can be accomplished using instructional videos. There are two main sources of videos, one is self-made videos and the other is using teaching videos available on the Internet. Speaking Mandarin is a skill course, not a basic theoretical knowledge course for most learners. All of them decide that it is more difficult to fully adopt the videos available on the Internet for teaching Mandarin. From a pedagogical point of view, teachers are more aware of the students' characteristics, and homemade videos are better to match the students' learning needs and more relevant to the teaching objectives. Homemade videos have certain requirements on the producer's teaching level, technology use and material conditions. We can make use of the power in the process of homemade video, editing and organizing all kinds of high-quality classes and gold class resources on the Internet, and use them in our own video, which not only ensures the quality of the video, but also meets the classroom and students. The supply of post-course materials is also a key element of teaching resources. For Mandarin speaking class, consolidation and expansion of learning after class is very necessary. For example, after learning the *n* and *l* consonants, students are provided with corresponding tongue twisters on the learning platform for those who are interested in or need to practice them over and over again.

Classroom interaction has been mentioned by most researchers in 13 articles (Wang, 2017; Li & Zhang , 2016; Wang , 2021; Zhou & Yi , 2018); Yu , 2019; Chen, 2015; Wang & Yang, 2018; Zhou, 2020; Liu & Zhang, 2018; Zhang, 2020; Luo, 2021; Tan, 2015; Gao et. al., 2021; Jing, 2021). In the previous classroom teaching strategy, teachers were required to complete all the knowledge points in a certain time, and students should be trained to complete each knowledge point during or after the lesson. Without the teacher's emphasis, there is little interaction between students, and students who have difficulty in learning will have a sense of loss and frustration while learning. Flipped classroom needs to re-plan the process of

teaching Mandarin to be able to plan the knowledge points that students have mastered before the class, watch micro-videos to make students compare their own speech issues, so that the teacher's time for classroom explanation becomes less (Liu & Zhang, 2016). During the teaching process, the instructor can assess each student's level of information acquisition. This allows them to assign reading assignments, provide feedback, listen to their concerns, and help those who need it learn the next lesson.

A total of 11 articles mentioned evaluation and assessment (Wang, 2017; Li & Zhang, 2016; Wang, 2021; Wang & Yang, 2018; Zhou, 2020; Zhou, 2020; Xing & Lin, 2016; Zhang, 2020; Luo, 2021; Jing, 2021). Zhou(2020)mentioned in her article，the evaluation mechanism of flipped classroom is multidimensional degree, unlike the traditional classroom that focuses only on summative evaluation without process evaluation. First, the evaluator is no longer limited to the teacher, but is done by the teacher, peers, and learners themselves. Secondly, the scope of evaluation runs through the whole teaching activities before, during and after the class. Thirdly, the evaluation content focuses on the evaluation of the learning process, including the performance of pre-course diagnostic tests, the performance of independent hierarchical practice, the performance of group collaborative practice, the performance of the results display, the performance of the homework and so on. Finally, the evaluation standard is diversified, and the evaluation requirements for students with different Mandarin bases are different. The form of teaching assessment should be reasonable and standardized in order to truly and objectively show the level of students. This is the main demonstration link of the degree of students' mastery of knowledge and the effectiveness of teaching, and it is an important manifestation of the effectiveness of Mandarin teaching.

Challenges

The challenges in using flipped classroom for Mandarin speaking learning are mainly focused on curriculum design (Liu & Zhang, 2016; Zhou, 2020), students' habits (Liu & Zhang, 2016; Zhou, 2020), teachers' abilities (Zhou, 2020; Zhou, 2020; Li, 2018; Zhang, 2020) and technology (Wang, 2021; Zhou, 2020; Li, 2018; Chen, 2017). Liu and Zhang (2016) mentioned that the burnout that students have developed over time leads to low motivation, self-control, and competitiveness. The phenomena of students' inability to ask questions, lack of initiative in learning, and involuntary laziness in attempting to muddle through are particularly prominent in the process of carrying out the flipped classroom teaching reform, and a portion of the students are unable to complete the pre-course learning tasks with high quality or on time. Zhou (2020) said that, when applying flipped classroom teaching to the teaching of Mandarin in higher vocational schools, the teaching mode should be innovated to optimally combine the teaching of Mandarin with the flipped classroom to provide students with a good learning platform, and then improve the quality of the teaching of students' Mandarin courses to ensure that the students' level of Mandarin can reach the standard. Zhou (2020) argues that in order to comply with the requirements of the reform of information technology teaching, the majority of teachers should change their educational concepts, improve the level of information technology application, strengthen the ability to innovate information technology teaching, let information technology be deeply integrated into the whole process of teaching, and explore the teaching mode suitable for the curriculum characteristics and cultivation objectives, so as to improve the quality of teaching. Li (2018) said that the factors from elsewhere, the school hardware facilities need to be improved, and do a good job of the evaluation system, to provide timely feedback on the progress of student

learning, and to truly bring into play the charm of the flipped classroom to the improvement of the teaching mode.

Discussion

This is a systematic review examining the use of flipped classrooms in learning Mandarin skills among Chinese undergraduates. One of the strengths of this review is that it provides an organized and comprehensive search of existing literature from three major Chinese academic databases. In addition, the systematic review focused on specific areas such as curriculum design, classroom interaction, and evaluation and assessment of Mandarin speaking learning using flipped classrooms. Only a few studies explored the use of flipped classroom in Mandarin speaking learning during the period of 2013-2023, and the quality of these studies was not satisfactory, and a more comprehensive and rigorous research design needs to be employed to draw conclusions. In addition to this, all the 20 selected articles on the use of flipped classroom in learning Mandarin speaking skills were presented using qualitative research and lack quantitative research, which is one of the major findings of this study.

The characteristics of learning Mandarin speaking skills mentioned in the selected articles mainly contain four aspects: accurate pronunciation, fluent expression, dialectal influence and practicality. LearningMandarin speaking skills is different from other language courses such as language. It is a practical and theoretical course, which requires high accuracy and fluency in pronunciation during the learning process, and students' dialects also affect the mastery of Mandarin speaking skills. Among the 20 articles analyzed, a total of 14 articles paid attention to these contents, but they were also briefly mentioned in these articles and did not specifically discuss the characteristics of learning Mandarin speaking skills.

The difference between traditional teaching and flipped classroom was also mentioned in the selected articles, with the focus on teacher role flip, student role flip, class time, learning space and independent learning. Zhou and Chen (2020) mentioned that the learning process of traditional Mandarin courses is mostly teacher-centered, and teachers have to face dozens or even hundreds of students alone in the course of lectures, which is impossible to effectively solve the phonological problems of individual students; and it is even more impossible for them to find out the issues individually and conduct effective Q&A and post-course expansion and enhancement after the class. Flipped classroom realizes the roles of teachers and students are flipped, students become the main body of learning, arrange their own learning time and learning space, use the three phases of pre-course, in-class and post-course to break through the limitations of time and space, realize students' subjectivity and participation, realize the interaction and communication between teachers and students, between students and between students and students, and online, and promote the initiative and enthusiasm of the students to learn independently. However, the large number of students and the inability of individual speaking problems to be corrected by teachers in a timely manner is also an important issue, which few researchers have paid attention to at present.

Almost all the 20 selected articles discussed the use of flipped classroom in learning Mandarin speaking skills. Feasibility, Course design, Necessity, Effectiveness, Teaching resources, Classroom interaction, Evaluation assessment are the main concerns of these articles, among which, course design is mentioned more often, and course design contains teaching video, classroom interaction, evaluation assessment and so on. From the selected articles, most researchers believe that course design is very crucial. Teaching videos should be short and precise, classroom interaction should consider both online and offline interaction, and

evaluation assessment should be scientific and reasonable. But few articles discussed the characteristics of Mandarin speaking skills learning in the context of the current research, which is also lacking.

Challenges faced contain Curriculum design, Student habits, Teacher ability and Technology, and a little researchers focus on the in-depth combination of Mandarin speaking skills with flipped classroom and how to improve the efficiency of using flipped classroom for Mandarin speaking learning.

Recommendation for Future Studies

Regarding the technology used in the flipped classroom, universities and colleges should increase investment in technology and establish a faster campus network to ensure that the network is smooth and free of lag when students use the online platform for learning. At the same time, teachers' ability to use the flipped classroom should be strengthened, and regular teacher training should be conducted, especially for the operation of the online learning platform, so as to improve teachers' ability to use the flipped classroom for Mandarin speaking. The teaching of Mandarin speaking should innovate the teaching mode and optimize the combination of the characteristics of Mandarin speaking and flipped classroom teaching to improve the students' Mandarin speaking level. To address the issues of insufficient motivation and poor self-control of students, teachers should improve the quality of the curriculum and arrange interesting contents close to students' lives in order to increase students' interest in learning and arouse students' initiative in learning. At the same time, they should also organize training for students to ensure that they are proficient in using online learning platforms and make full use of the resources of online learning to improve their Mandarin speaking level.

Mandarin speaking course is a course that emphasizes both practical training and theoretical learning, and future researchers can discuss the special features of the Mandarin speaking course to improve the efficiency of using the flipped classroom in learning Mandarin speaking skills. There is scarce research about the technology used in flipped classroom, such as from which technology platforms students get video resources when they do their assignments for the theory class before the class, and where students' online discussions take place. This is an interesting direction for future research. There are too few quantitative studies on the use of flipped classroom in learning Mandarin speaking skills. Future researchers can get more data through questionnaires and so on and use the data to support the research results.

Conclusion

A systematic review provides insightful information on the use of flipped classrooms in learning Mandarin speaking skills. This research reviewed and synthesized the use of flipped classrooms in Mandarin speaking skills learning and explored the characteristics of Mandarin speaking skills, the differences between traditional and flipped classrooms, and the current situation of Chinese university students using flipped classrooms for Mandarin speaking learning. The comprehensive information obtained from these research will help to modify existing and developing flipped classrooms for improving students' Mandarin speaking skills. In this technological era, the flipped classroom offers a great advantage of switching the roles of teacher and student and enhancing the convenience and flexibility of learning.

References

Chen, G. Q. (2017). Harnessing modern information technology - application countermeasures of microclasses in higher vocational Mandarin flipped classroom. Modern Language: Middle, Research on Teaching and Learning, (10), 22-24.

Chen, X. (2015). Analysis of the application of flipped classroom teaching mode in the teaching of Mandarin in preschool education majors. Life Education, (14), 30-32.

Chen, X. F. (2014). Research on flipped classroom teaching mode (Master's thesis). Huazhong Normal University, Wuhan.

Gao, L. F., Li, J. L., & Tie, H. Y. (2022). Research and Practice of "MOOC+Flipped Classroom" Online-Offline Blended Teaching Mode--Taking the Example of "Shaping the Speech of Mandarin" Course in Hebei Normal University for Nationalities. Popular Digest, (23), 91-93.

Jing, P. (2021). An analysis of the practice of flipped classroom in teaching Mandarin in colleges and universities. Reading and Writing: Late, (3), 379.

Levy, Y., & Ellis, T. J. (2006). A systems approach to conduct an effective literature review in support of information systems research. Informing Science, 9, 181-212.

Li, M. (2018). Feasibility Analysis of Flipped Classroom for Teaching Mandarin Course in Colleges and Universities in Hainan Province--Taking Hainan Tropical Ocean College as an Example. Comparative Research on Cultural Innovation, 2(23), 97-98.

Li, T. T., & Zhang, M. J. (2016). Exploring the teaching mode of Chinese speaking class based on flipped classroom--Taking "Mandarin speaking expression and communication" class as an example. Guangxi Education, (9), 76-78.

Liu, J. (2020). An analysis of the application of flipped classroom in teaching Mandarin in local colleges and universities. Science and Education Guide: Electronic Edition, (8), 200-201.

Liu, X. J., & Zhang, X. L. (2016). Research on flipped classroom teaching based on Mandarin training course. Extracurricular Language: Next, (5), 63-64.

Liu, X. J., & Zhang, X. L. (2017). An analysis of flipped classroom activity design strategy--Taking the Mandarin speaking expression ability training course as an example. Xueyuan, (24), 7,11.

Luo, L. (2023). The application of flipped classroom teaching mode in oral language teaching for early childhood teachers. Beijing: Beijing Press.

Onwuegbuzie, A. J., & Frels, R. (2016). Seven steps to a comprehensive literature review: A multimodal and cultural approach. London: SAGE Publications Ltd.

Qi, W., Li, Y. L., & Zhang, Y. X. (2001). Thoughts on the promotion of Mandarin in colleges and universities. Journal of Social Sciences in Shanxi Universities, 13(9), 92-94.

Tan, Q. Y. (2015). Research on the use of flipped teaching mode in teaching Mandarin. Journal of Hezhou College, 31(2), 128-131.

Wang, F. (2021). The construction of Mandarin speaking flipped classroom under multimodal teaching mode. Literature and Education Materials, (15), 222-223,231.

Wang, J. F. (2017). Research on the application of flipped classroom mode in Mandarin teaching of Chinese language and literature majors. Journal of Heilongjiang Ecological Engineering Vocational College, 30(2), 101-102,108.

Xing, R. N., & Lin, Y. (2016). Reflections on the application of flipped classroom to the teaching of spoken Mandarin for teacher trainees. Examination Weekly, (65), 153-153,154.

Wang, Y. N., & Yang, J. (2018). The attempted use of flipped classroom in the teaching of Mandarin in local colleges and universities. University Education, (1), 156-158.

Yu, L. L. (2019). The application of flipped classroom mode in Mandarin teaching of Chinese language and literature majors. Talent, (4), 102.

Zhang, Y. (2020). Practical analysis based on flipped classroom in teaching Mandarin in Xinjiang higher vocational colleges. Chinese Character Culture, (23), 44-45.

Zhou, M. X. (2020). The attempted use of flipped classroom in the teaching of Mandarin. Shanxi Youth, (2), 297.

Zhou, X., & Cheng, Q. (2020). Exploration of Flipped Classroom Teaching Reform of Mandarin Course under the Background of Internet+. Research on Contemporary Educational Practice and Teaching, (2), 31-32.

Zhou, X., & Yin, Z. (2019). Analysis of "three stages and eight steps" of flipped classroom in Mandarin course. Literature and Education Materials, (32), 58-59.

Zhou, X. (2020). The application of flipped classroom in teaching Mandarin. Literature Education, (2), 86-87.