A Study on the Construction of Dynamic Assessment Model of College English Flipped Classroom Based on Mobile Learning

ZHANG Hui[a],*

[a] Associate Professor, School of Foreign Languages, Taishan University, Tai'an, Shandong, China.
* Corresponding author.

Abstract

With the rapid development of the Internet and the popularity of mobile devices, mobile learning and flipped Classroom have been widely used in college English teaching in China. As innovative digital learning and teaching mode, both of them emphasize the autonomy and individuation of learning, which break through the limits of time and space. Therefore, more scientific and accurate assessment model is urgently needed to evaluate the changes of students' knowledge, skills, learning attitude and other aspects in the whole process of mobile learning. From the perspective of Dynamic Evaluation Theory, this paper abandons the drawbacks of traditional static assessment model and applies the dynamic assessment into every link of mobile learning and flipped classroom. It constructs a diversified dynamic assessment system of college English, comprehensively evaluating students' academic performance by means of information technology and network resources. After two semesters of experimental study, it terrifies the effectiveness of the new dynamic assessment model based on the data collected in the questionnaires, interview, and the test. The implementation of the innovative assessment model not only urges teachers to improve teaching management, but also enhances students' learning efficiency and language application ability, thus improving the quality of college English teaching. It opens up a new prospect for the standardization and scientization of college English assessment system.

Key words: Dynamic assessment model; Mobile learning; Flipped classroom

1. INTRODUCTION

Teaching assessment is regarded as one of the most important aspects in measuring the teaching quality of higher education. The Curriculum Requirements for College English Teaching (2007) issued by the Ministry of Education clearly states that "a comprehensive, objective, scientific, and accurate assessment system is crucial for achieving teaching objectives. Teaching assessment is not only an important basis for teachers to obtain information feedback, to improve teaching management, and to guarantee teaching quality, but also an effective means for students to adjust learning strategies, improve learning methods, enhance learning efficiency, and achieve good learning outcomes. Teaching assessment focuses on the changes of students' various skills throughout the learning process from a dynamic and developmental perspective. It is the key element to improve the teaching quality of schools.

Long-term teaching practice shows that traditional static assessment model based on summative evaluation exists many problems as follows: (1) The assessment methods and assessment means are simple. Students' academic performance is mainly measured by teachers according to their classroom attendance, homework grades, Mid-term and Final exam results. Exam scores become the main assessment indicators that judge students' mastery of knowledge and reflect teachers' teaching ability; (2) The assessment content is single, mainly focusing on teaching effectiveness rather than the learning process. Due to the fact that teachers evaluate students' learning outcomes mainly according to their exam grades, students' academic performance throughout the mobile learning process cannot be reflected accurately. Other factors such as students' learning attitudes, learning engagement, emotional changes, collaborative awareness, and communication ability in completing various tasks and solving various problems both inside and outside of class cannot be evaluated reasonably. Furthermore, it is more difficult to analyze and evaluate students' cognitive development process and learning potential effectively, resulting in the lack of objectivity and comprehensiveness

in assessment results; (3) The assessment subject is single. Teachers are the sole evaluators, lacking students' self-evaluation and peer evaluation. Therefore, students are unable to make self-diagnosis and adjust learning strategies and methods in time to improve learning efficiency. So how to carry out the reform of college English teaching assessment model from a new perspective has become one of the important tasks faced by university teachers.

With the development of Internet technology and the widespread use of mobile devices, mobile learning has become an indispensable learning method in the information age due to its convenience, flexibility, personalization. It has brought students a new learning experience, realizing the efficient allocation of learning resources. Mobile learning is very suitable for the needs of ubiquitous learning in flipped classroom. Before class, teachers release online learning resources on learning platforms and software. Students complete the learning tasks in advance based on independent learning and group discussions. In class, students demonstrate their learning outcomes. Teachers answer questions and solve doubts. They engage in diverse teaching activities, achieving further internalization of knowledge. Both mobile learning and flipped classroom emphasize exploratory and collaborative learning that breaks the boundaries of time and space. The corresponding teaching assessment model should be constructed to appraise the development and changes of students' learning emotions, attitudes, motivations, academic performance, etc. in the whole process of autonomous learning. However, traditional static assessment model, which mainly focuses on summative assessment, cannot evaluate students' overall autonomous learning status. Therefore, it is of great significance for teachers to actively construct an innovative dynamic assessment model based on Dynamic Assessment Theory, making fair and reasonable evaluations of the whole teaching and learning process.

2. LITERATURE REVIEW

2.1 Definition of Dynamic Assessment

Dynamic assessment is an assessment method developed in the west in the last thirty years. Dynamic assessment, also known as learning potential assessment, is a series of assessment methods to explore and discover students' potential development abilities through the interaction between evaluators and students in the process of assessment, especially with the help of experienced evaluators (Lidz, 2003). This term was first put forward by Luria (1961). Later different views on the concept of dynamic assessment were proposed by different scholars in various countries. According to Feuerstein (1979), dynamic assessment is a psychological measurement technique. It is a dynamic process and interactive teaching

assessment system which is quite different from static assessment. Tzuriel and Kaufman (1999) define dynamic assessment as a process of evaluating students' thinking, cognition, learning, and problem-solving abilities. After that, Psychologist Sternberg (2002) points out that dynamic assessment focuses on the teaching process and emphasizes the inseparability of learning process and teaching assessment. He believes that dynamic assessment focuses on students' learning process as well as students' learning results.

Dynamic assessment is relative to static evaluation, which has a dynamic characteristic and focuses on measuring the ability of the evaluated person to obtain information or complete tasks within a certain period of time. Dynamic assessment includes two layers of meanings. Firstly, it is used to observe and evaluate students' progress and changes across multiple points in time, and to learn about the characteristics of students' dynamic cognitive process and the changes of students' cognitive ability; Secondly, there is a large number of interactions between the evaluator and the evaluated, emphasizing the integration of evaluation with the teaching process and teaching system services. Dynamic assessment can provide and implement diagnostic evaluation and teaching remedies（Hu，2005), In other words, dynamic assessment not only focuses on the changes in students' cognitive processes and cognitive abilities, but also emphasizes the interaction between the evaluator and the evaluated.

2.2 The Characteristics of Dynamic Assessment

2.2.1 Learning Process Orientation

Dynamic assessment is process-oriented whereas traditional static assessment is result-oriented. As assessors, teachers not only focus on the changes and development of students' knowledge, skill, learning attitude, learning strategies, communicative ability, etc. in the whole learning process, but also explore the problems that arise during the learning process and provide effective assistance for each student's future development.

Dynamic assessment is also different from traditional static assessment in the interpretation of test results. The method of comparing the results of the pre-test and the post-test is used in dynamic assessment. Pre-test can help teachers to learn about the current level of students. It can also diagnose the causes and factors that contributed to their current level. The differences between students' scores in the pre-test and the post-test are regarded as the basis for predicting and improving the individual's recent development zone.

2.2.2 The combination of teaching and assessment

Dynamic assessment puts emphasis on the combination of teaching and assessment. Through the mediated interaction, assessors explore and develop student's recent development zone, ensuring that the assessment on students and feedback provided by assessors are highly

aligned with student's cognitive development process so as to improve their cognitive strategies. It usually adopts the procedure of "pre-test→intervention→post-test". In the process, assessors make proper assessment on students' learning and provide timely feedback and guidance. Emphasis is placed on the development of students' potential and the cultivation of learners' cognitive strategies.

2.2.3 Interactive measurement

The interaction between assessor and students throughout the process is the most distinctive feature of dynamic assessment. It changes traditional static assessment from one-way assessment (only written feedback and evaluation of final result) to two-way interaction. Dynamic assessment emphasizes the importance of feedback. Feedback plays an important role in the assessment process and serves as channels of interaction between assessors and students. Assessors provide appropriate intervention and feedback according to different problems that students encounter in the process of learning. The promptness and rationality of feedback will have a positive influence on the further development of students' cognitive abilities.

2.3 Theoretic Foundations of Dynamic Assessment

2.3.1 Constructivist Learning Theory

Constructivist Learning Theory advocates that students are the subjects of learning rather than passive recipients of knowledge. Teachers should pay close attention to students' subjective learning initiative and encourage them to actively learn knowledge and skills. Students should utilize effective learning tools and rich learning resources to independently construct and actively explore knowledge through past learning experiences. Under the guidance of Constructivist Learning Theory, classroom teaching should achieve a shift from "teacher-centered" to "student-centered". In the whole learning process students should be encouraged to change the habit of passively receiving knowledge and learn to actively explore knowledge through personal efforts.

According to Constructivist Learning Theory, students conduct independent learning by using mobile tools, online learning platforms, and various teaching software, exerting their subjective initiative and building their personal knowledge system. While acquiring knowledge and skills, students constantly reflect on the learning process, improve learning methods, enhance learning efficiency. Constructivist Learning Theory holds that the focus of teaching assessment is not only on how much knowledge and skills students master, but also on the changes of students in the entire process of exploring knowledge and improving skills. More importantly, a comprehensive assessment system should be established to evaluate students' learning attitudes, emotions, strategies, effect, etc. In short, Constructivist Learning

Theory, with its unique views, has become the theoretical basis for dynamic assessment.

2.3.2 Sociocultural Theory of Mind

Sociocultural Theory of Mind proposed by Soviet scholar Vygotsky is also an important theoretical basis for dynamic assessment with its unique insights. This theory suggests that individuals' cognitive development should be understood and analyzed in conjunction with their social, cultural, and historical backgrounds (Vygotsky，1978). The best environment for students to learn a language is society, and the best method to acquire a language is by taking part in social activities. Language come into being naturally in human activities.

Later, Vygotsky proposed the concept of "the Zone of Proximal Development" and defined it as the gap between a child's actual development level and potential development level. The former is determined by the child's ability to independently solve problems, while the latter refers to the child's ability to solve problems under the guidance of adults or in collaboration with peers with stronger abilities（Ma，2005). Dynamic assessment is based on the zone of proximal development of individuals and puts emphasis on the combination of teaching and assessment. Teaching and assessment are inseparable. Students' future development relies on the joint efforts of teachers and students, which helps students step over the nearest development zone.

2.3.3 Mediated Learning Experience Theory

On the basis of Vygotsky's theory, the renowned Israeli scholar Feuerstein proposed a learning theory that emphasizes the role of social environment and uses interaction as a mediator, known as Mediated Learning Experience Theory. This theory emphasizes that learning is a process of continuous interaction between educators, learners, and learning tasks, advocating the establishment of cooperative relationship between teachers and students through interaction（Feuerstein，1979). Teachers consciously adopt effective methods to stimulate students' learning and cognitive development as mediators. They enable students to gain experience and knowledge through interaction, and guide them to internalize experience and knowledge into their cognitive structure, ultimately forming problem-solving abilities and modifying their cognitive structure. In this process, teaching assessment can motivate students' optimal development level through the intermediary learning experience provided by teachers and peers. Feuerstein also pointed out that dynamic assessment, unlike traditional testing, is a method of assessing learners' actual potential. When evaluating an individual's potential by using interactive methods, dynamic assessment evaluates his/her cognitive and metacognitive processes from a diachronic perspective, aiming to promote the changes in individual cognitive abilities, thereby transforming traditional test from "result-oriented" approach into a "process-oriented" approach. (Baocheng Han, 2009)

2.4 Previous Studies on Dynamic Assessment

The theoretical research of dynamic assessment mainly focuses on its modes and methods. The mode of dynamic assessment is divided into two types: intervention type and interactive type. Interventional dynamic assessment focuses on the "quantitative" indicators of evaluation, namely the speed index of learning and the amount needed to help learners achieve predetermined learning goals quickly and effectively. Students' abilities are gradually developed through different interventions. The most famous examples of interventional dynamic assessment include: Budoff's learning potential assessment model; Leipzig learning test model proposed by Guthke; Step-by-step prompt assessment model designed by Brown. Interactive dynamic assessment is different from interventional dynamic assessment in that it emphasizes quantification. It focuses on qualitative assessment of students' psychological potential development. The most classic assessment model derives from the learning potential assessment program proposed by Feuerstein and his colleagues. This program concentrates on a process-oriented approach rather than a result-oriented approach, emphasizing the interaction between testers and learners. It points out that learners can achieve success with assistance from various aspects.

The research on dynamic assessment has achieved significant results in the fields of psychology and education. The research scope of dynamic assessment in the field of linguistics has also been expanded. For example, Kozulin & Garb (2002) conducted a study on the application of interventional dynamic assessment in the students' reading comprehension of high school; Poehner (2005) constructed a model of ability development for second language learners in the process of dynamic assessment, and conducted a study on the oral proficiency of adult French learners through interactive dynamic assessment methods; Zheng Lin (2010) applied the interactive dynamic assessment method in listening and speaking practice of kindergarten children who used English as a foreign language and verified its effectiveness; Lantolf & Poehner (2011) made a research on the application of dynamic assessments in class conducted by primary school teachers who teach Spanish as a foreign language.

In the early stages, the research on dynamic assessment in China mainly focused on the theory, model and the construction of dynamic assessment system. For example, Peng (2004) explored the development and utilization of dynamic assessment in college English teaching based on Constructivist LearningTheory; Han (2009) conducted a research on the application of dynamic assessment model in foreign language education based on the drawbacks of traditional static assessment; Zhang (2008) constructed a new dynamic assessment system of college English writing teaching based on Vygotsky's Sociocultural Theory of Mind; Wen and Fang (2013) sorted out the theoretical basis and main models of dynamic assessment, and implemented a research on the application of dynamic assessment in foreign language teaching. In recent years, more and more Chinese scholars have realized the importance of dynamic assessment and applied it into English writing, reading and translation teaching. For example, Li Yongli (2020) explored the impact of dynamic assessment on the improvement of students' translation competence. Ningning (2021) conducted an empirical study on the application of dynamic assessment in college English writing teaching, which proved the effectiveness of dynamic assessment in stimulating students' interest in writing and enhancing students' writing ability.

After consulting a lot of literature, we found that the research on dynamic assessment in the field of education in China mainly focuses on the concept, characteristics, assessment methods or the construction of dynamic assessment design schemes. The number of representative literatures regarding dynamic assessment is limited. There exist certain limitations in research methods and perspectives. Furthermore, theoretical research is not deep enough. Empirical research on dynamic assessment models in the field of foreign language teaching is clearly insufficient. Most important of all, it is found that the relevant research on the application of dynamic assessment theory in flipped classroom based on mobile learning is also rare.

Mobile learning and flipped classroom are consistent in focusing on learning behavior, extending learning duration, creating the best learning context, and improving learning efficiency. The integration of the two allows information technology and digital resources to play the greatest advantages in teaching and learning, changing teachers' unilateral knowledge infusion into interactive learning between teachers and students so as to achieve the best teaching effect. Mobile learning is a dynamic process accompanied by students' psychological and physiological development. In the flipped classroom teaching model based on mobile learning, teaching assessment should go deep into every stage and the whole process of learning, thus making an objective evaluation of students' knowledge, skills, emotions, and strategies, etc. However, traditional static assessment model cannot comprehensively reflect the changes of students' academic performance throughout online and offline learning process and provide enough feedback for students' mobile learning, which can easily lead to the phenomenon of blindly pursuing high scores in the exam. Therefore, it is extremely essential for college English teachers to construct a new dynamic assessment system on the basis of the combination of mobile learning and flipped classroom so as to accurately appraise the changes and effects of students' entire learning process, promote the improvement of teachers' professional skills, enhance students' learning efficiency, improve the quality of college English teaching.

3. METHODOLODY

3.1 Research Aims

The aims of the research are listed as follows: firstly, it tries to construct an innovative dynamic assessment model of college English flipped classroom based on mobile learning in order to promote the comprehensive integration of modern information technology and English teaching in universities; Secondly, it tries to break the limitations of traditional static teaching assessment model and build a diversified dynamic assessment system in order to improve teachers' teaching management, enhance students' learning efficiency and improve the quality of College English teaching. Most important of all, it aims to deepen the reform of college English teaching assessment model, provide abundant feedback for college English flipped classroom, striving to realize the three requirements of interactive teaching, in-depth learning and personalized education in the information age.

3.2 Research Subjects

In the study, 201 undergraduate students in Taishan University were selected as research subjects according to their examination scores. They are non-English majors from four majors. Among them, 53 students in class 1 who major in international trade belong to the experimental class, 49 students in class 2 who major in ideological and political education, 48 students in class 3 who major in history and 51 students in class 4 who major in chemistry are in the control classes. They have similar English proficiency before the experimental treatments. They used the same textbooks and are taught by the same English teacher. During the teaching experiment, the dynamic assessment model of college English flipped classroom based on mobile learning was used in the experimental class while the traditional static assessment model was adopted in the control classes.

3.3 Research Procedure

The research lasted for two semester, including three stages:

3.3.1 Pre-Research Stage

Before conducting the research, a wide range of literature materials were collected and consulted to learn about current status and development trend of the research, laying the foundation for the smooth progress of the study. In addition, the research subjects were chosen carefully according to the category of students and their exam scores. Then they were given a pre-test to ensure that they are at the same level of English proficiency.

3.3.2 Mid-Research Stage

During the teaching experiment, with the help of mobile terminal devices and internet learning platform, the new dynamic assessment model was constructed and applied in the experimental class, conducting a comprehensive assessment of students' academic performance in the whole mobile learning process.

(1) Evaluation indicators of the dynamic assessment model of college English flipped classroom based on mobile learning

* Teaching assessment before class
Online platform learning status statistics
The frequency of group cooperative learning
Task completion status
pre-class exercises completion status
* Teaching assessment in class
Class performance and participation
Language proficiency in taking part in class activities
Collaborative awareness and communication skills
Changes in learning attitudes, emotions, and other aspects
* Teaching assessment after class
Online testing results
Result of online exercise and homework
Learning feedback report
The records of participation in the out-of-class activities

(2) Characteristics of the dynamic assessment model of college English flipped classroom based on mobile learning

* Integration of assessment and teaching

The evaluation for students runs through the entire learning process, monitoring students' mobile learning, providing appropriate diagnosis for all links of teaching and learning, discovering and solving learning problems in time. Only in this way can we promote students' learning efficiency and teachers' teaching quality through assessment, achieving an organic unity of teaching and evaluation.

* Diversified assessment content

Teaching assessment should not be limited to students' mastery of knowledge. It also includes the evaluation of students' various abilities, such as cooperation ability, critical thinking ability, and self-learning ability. At the same time, students' learning engagement, attitudes, emotions, and learning development throughout the entire mobile learning should be evaluated properly.

* Diversified assessment subjects

Teachers are no longer the sole subject of evaluating students' academic performance and grades. Students themselves and their partners should also participate in the evaluation. During the learning process, students can constantly reflect on their learning behavior (including the establishment of goals, the appropriateness of learning content, the efficiency of learning methods and strategies, etc.) by self-evaluation and peer evaluation. In this way, they can adjust their learning strategies to learn English more creatively and efficiently.

* Diversified assessment methods

Teachers provide immediate oral evaluations for

students' learning performance in class. Fair written evaluations for students' homework and test are also given by teachers in time. In addition, teachers can also comprehensively monitor and evaluate students' learning performance through data recording and score statistics on network learning platforms and teaching software, accurately reflecting students' mastery of knowledge and changes of skills throughout the entire teaching and learning process.

(3) Construction of the dynamic assessment model of college English flipped classroom based on mobile learning

The dynamic assessment model of college English flipped classroom based on mobile learning can be divided into two modules: the formative assessment and the summative assessment, which occupy 50% of the total score respectively, as shown in the Figure 1.
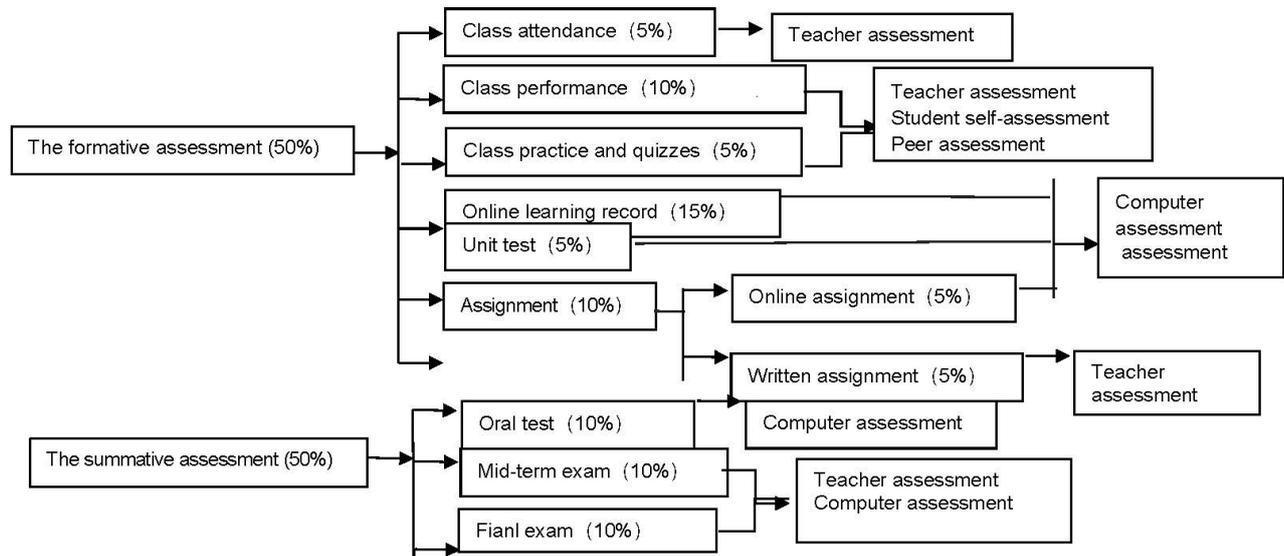

Figure 1
The Construction of the Dynamic Assessment Model of College English Flipped Classroom based on Mobile Learning

The formative assessment module includes the following six parts:

* Class attendance

Students' class attendance is evaluated by teachers according to roll call or check-in records of online learning platform. It occupies 5% of the formative assessment.

* Class performance

Students' class performance occupies 10% of the formative assessment. It is evaluated by teachers, students themselves and their peers from the following aspects.

Degree of classroom participation

Teachers evaluate students' degree of classroom participation based on their frequency of answering questions, participation in classroom discussions and presentations, and completion records of classroom activities.

Language application ability

Teachers provide fair and accurate evaluation of students' language application ability, including listening, speaking, reading, writing, and translation based on the records of students' classroom performance, grades of class practice and quizzes.

Learning attitudes and the application of learning strategies

Teachers evaluate changes in students' learning attitudes timely by analyzing students' online learning status, participation records of classroom activities, encouraging them to spend more time on English learning. Teachers also learn about the learning strategies adopted by students in the process of learning, including cognitive learning strategies, metacognitive strategies, communicative strategies, and social strategies, providing guidance and training to improve students' autonomous learning competence.

* Class practice and quizzes

After learning the text, students will be given exercises and quizzes to complete in class, including listening, reading and translation. These are very important evaluation indicators and evaluated by teachers, students and their peers, which occupy 5% of the formative assessment.

* Online learning record and unit tests

Online learning status and unit tests are calculated and analyzed by computer automatic statistics function. They occupy 20% of the formative assessment. When students complete the learning task assigned by teachers on the network learning platforms, such as "Superstar Learning Platform" and "U Campus", students' learning frequency and the number of task points completed

will be recorded automatically in the platforms. Then each student's total score will be given based on the percentage set by the platforms. After completing the unit test, students will immediately see the scores provided by the statistics function of the platforms. Based on data recording and statistics of the learning process both in and out of class, teachers can learn about the learning status and progress of each student, offering useful suggestions, and promoting their learning progress. On the other hand, students can also discover their learning shortcomings at any time through the platform's records and grades, constantly change their learning methods, optimize learning strategies, and improve the effectiveness of online autonomous learning.

* Assignment

Assignment includes two parts: online assignment and written assignment, which occupy 10% of the formative assessment. Online assignment is automatically graded by network learning platforms whereas written assignment is evaluated by teachers when students submit them after class.

The summative assessment module consists of three parts: mid-term exam, oral test and final exam.

* Mid-term exam

Mid-term test is conducted through "Superstar Learning Platform" in the middle of the semester. It is graded by the scoring system of the learning platform, which occupies 10% of the summative assessment.

* Oral test

Oral test is conducted through "Fif Oral Testing Platform" at the end of the semester. It is graded by the scoring system of the learning platform, which also occupies 10% of the summative assessment.

* Final exam

Final exam is a formal examination organized by school at the end of each semester. It is conducted in the examination room, supervised by teachers. It is usually graded by teachers and machines, which occupies 30% of the summative assessment.

In conclusion, the overall evaluation of students' learning effectiveness is achieved through teacher assessment, student self-assessment, and peer assessment, involving various aspects of classroom teaching and online mobile learning. The weekly reflection report written by students is also an effective way to evaluate students' learning effectiveness, which includes their learning gains, problems encountered in learning and solutions, as well as teaching advice given to their English teachers.

3.3.3 Post-Research Stage

After two semesters of teaching experiment, the subjects were given an English test. The test scores of the experimental class and the control classes were compared and analyzed to verify the effectiveness of the dynamic assessment model of college English flipped classroom based on mobile learning. Then, questionnaire and interview were distributed and conducted to the students in the experimental class to learn about their perception for the new assessment model and the positive influence of the assessment model in improving their learning efficiency and academic achievements. The data was collected and analyzed. The experimental results were discussed and the final research report was completed in time.

3.4 Research Instruments

Questionnaire, interview and test were adopted to make research on the application of dynamic assessment model of college English flipped classroom based on mobile learning.

3.4.1 Questionnaire

After the teaching experiment, the questionnaire is designed to verify the effectiveness of the new dynamic assessment model. A total of 20 items in the questionnaire are set which evaluate the following aspects: students' participation in the new assessment model, students' perception and satisfaction with the new dynamic assessment model, the influence of the new dynamic assessment model on students' academic performance. Each item in the questionnaire follows a 5-point Likert scale ranging from "strongly disagree", "disagree", "neutral", and "agree" to "strongly agree". The participants were asked to make a selection among these five options according to their true feelings and learning experiences. After gathering enough data, SPSS version 26.0 was adopted for further statistical analysis.

3.4.2 Interview

In order to learn more about the feasibility of the dynamic assessment model of college English flipped classroom based on mobile learning, an interview is conducted after the questionnaire. The interview consists of six open-ended questions, which include the interviewees' attitudes towards the innovative assessment mode and its impact on their English learning and language ability. Some interview questions are related to the questionnaire, while some questions are supplementary to those not covered in the questionnaire. Seven students from the experimental class were randomly selected as interviewees and each interview lasts about 15 minutes.

3.4.3 Test

Pre-test and post-test were given to all the participants to make a comparison of score changes between the experimental class and the control classes before and after the experimental study. In order to ensure the authenticity and reliability of the results, the papers of College English Test Band 4 were adopted, including composition writing, listening comprehension, reading comprehension and translation. The total score of each paper was 100. The process, question type, difficulty level, reviewer and evaluation method of the pre-test were the same as that of

the post-test. After the students completed the tests, the average scores of students from the experimental class and the control classes were contrasted and analyzed as the final evaluation criterion.

3.5 Data Collection and Analysis

A professional survey platform named "Wenjuanxing" was chosen to collect all the data of the questionnaire. Then the survey data was input, processed and analyzed by SPSS version 26.0 for windows. Descriptive statistical analysis was mainly used to analyze the frequency and necessary correlation of each index.

The data from the pre-test and post-test were collected in the first week and the eighteenth week of the semester respectively. The average scores of students from the experimental class and the control classes were contrasted and analyzed through Independent Sample T-Test by SPSS26.0 to verify the effectiveness of the new teaching assessment model.

4. RESULTS AND DISCUSSION

4.1 Analysis of the Questionnaire

The questionnaire was sent to the students in the experimental class and then was conducted at the same time and place in order to learn about the implementation effect of the dynamic assessment model of college English flipped classroom based on mobile learning. The questionnaire consisted of a total of 25 questions which mainly investigated students' perception and satisfaction with the new assessment model, including assessment methods, assessment subjects, assessment content, and the impact of this dynamic evaluation model on students' English learning. Subsequently, after eliminating invalid questionnaires, the following conclusions were drawn through statistical analysis of the data as follows: (1) Compared with the traditional static assessment model, 95% of the students were in favor of the dynamic assessment model of college English flipped classroom based on mobile learning, and believed that this model will achieve better teaching effect in the future with the gradual improvement of the assessment system. Under the new dynamic assessment model, students became the main body of learning. They made the most of rich resources to carry out mobile learning, participated in classroom activities, breaking the situation of the cramming method of teaching in the traditional classroom. Before class, they learned the teaching materials released by teachers in the learning platform and completed the learning task, realizing the internalization of knowledge through group cooperation under the guidance of teachers. In class, they took part in various teaching activities, strengthened their sense of teamwork, and enhanced their oral expressive ability. After class, they took the initiative to complete the assignments on time and participated

in the second classroom practice activities to further strengthen the ability of language application. The new dynamic assessment model can comprehensively record and accurately reflect students' learning changes and effects in the whole learning process in and out of class; (2) 91% of students agreed with the diversified assessment subjects advocated by the new dynamic assessment model, which combines teacher assessment, student self-assessment, and peer assessment. They confirmed that participating in teaching assessment can help them to constantly reflect on their learning outcomes, learn about their learning problems, adjust their learning strategies and narrow the performance gap with classmates. At the same time, peer assessment can stimulate students' enthusiasm for learning and promote cooperative learning and communication; (3) According to the data analysis, 85% of students were able to complete the learning tasks assigned by the teacher on "Superstar Learning Platform" and submit assignments on the software, such as "U Campus", "Fif Oral Test System on time. They believed that the automatic assessment function of learning platforms and software has the characteristics of fastness and real-time, which is more efficient than the evaluations given by teachers. Their exercises and homework can all be graded by using computer-aided methods, reducing the subjectivity and arbitrariness of manual assessment, and improving the effectiveness and accuracy of assessment. The learning situation analysis and score statistics provided on the learning platform can enable students to realize their learning problems and promote them to make greater progress in language application abilities; (4) 91% of students confirmed that the new teaching assessment model had a positive influence on their English learning. Electronic learning archive for each student was recorded by teachers include the completion status of online learning task and assignments, the evaluation of students' classroom participation, grades of each class quizzes and unit test, which can help teachers timely learn about their learning outcomes and provide effective learning suggestions, enhancing their learning efficiency. It provided real and effective data for effective teaching assessment. Unit tests usually took the form of a combination of extracurricular self-testing and classroom testing. After each test, the teacher checked the answers and made comments, enabling students to correct the errors in the test papers. The weekly reflection report written by students was an effective way to evaluate students' learning effectiveness, which greatly promoted students' sense of self-efficacy and cognitive development; (5) 89% of students stated that new dynamic assessment model can give a fair and appropriate evaluation of their English learning. Through the effective integration of flipped classroom and mobile learning, their autonomous learning ability and language application ability had been greatly improved. They

made great progress in their English learning and their English scores were improved a lot after the new dynamic assessment model was carried out for a period of time. Most of them successfully passed CET-4 and made ideal achievements. Good learning outcomes further increased their enthusiasm and initiative in learning English, thereby achieving a positive cycle of learning.

In conclusion, the new assessment model was widely accepted and praised by the students from the experimental class. It has created more opportunities for teacher-student communication and student-student communication, stimulated students' learning potential, and promoted students to learn more actively. At the same time, students' enthusiasm in participating in the activities inside and outside class have significantly increased and the learning effect has significantly improved.

4.2 Analysis of the Interview

In order to learn more about students' opinions for the dynamic assessment model of college English flipped classroom based on mobile learning and fully understand the influence of this new assessment model on students' learning motivation, academic performance, and autonomous learning ability, seven students from the experimental class were chosen to be interviewees and asked five questions related to the new assessment model. The interview results are shown as follows: (1) Compared with the traditional static assessment model, all the interviewees preferred the new dynamic assessment model, which had a great influence on their English learning. After two semesters of teaching reform experiments, their learning motivation has been stimulated, their autonomous learning ability and academic performance have been greatly improved. They all passed the College English Test Band 4; (2) The interviewees agreed that under the new dynamic assessment model, they got access to various learning materials in the form of audios, videos, courseware, etc. distributed by teachers in the learning platforms and learned them at anytime, anywhere through mobile devices. Before class, they can complete learning task on time, changing the disorder and arbitrariness of previous mobile learning. In class, they no longer remained silent as usual and actively participated in various kinds of classroom activities, such as class presentations, group discussions, role plays,

class presentation, etc. This increased the opportunities for teacher-student and student-student communication, enhancing their learning motivations and enthusiasm. The timely oral feedback and written assessment provided by teachers and peers enabled them to find out their learning problems and solved them in time, promoting the development of their language abilities. The quizzes and tests conducted in and out of class helped them learn more about the information about their knowledge acquisition; (3) The interviewees confirmed that the subject of assessment is no longer limited to teachers. Students can actively participate in teaching and learning assessment, triggering their learning motivation. Through self-assessment and mutual assessment, they can better reflect on their learning process, improve their learning methods, and enhance their learning efficiency. Their academic achievement in the electronic learning archive should be included in the final grade. Therefore, they had to take the online learning seriously before class, perform well in class, complete exercises and assignments on time after class; (4) The interviewees believed that the new dynamic assessment model compensated for the shortcomings of traditional static assessment model and achieved effective evaluation of their learning process. Teachers can timely learn about students' learning status, provide personalized guidance through online intervention. Students can understand their learning strengths and weaknesses through score records and data feedback on learning platforms and software. They can adjust their learning strategies in a timely manner, promoting the effectiveness of mobile learning. In summary, the interviewees held that it is necessary to apply the new dynamic assessment model to the English teaching widely and believed this assessment model can achieve better effects in the future, although there are still some deficiencies.

4.3 Comparison Analysis of English Test Results between the Experimental Class and the Control Classes

In order to investigate the changes of students' grades in the four classes participating in the teaching experiment, all the students in the experiment class and the control classes were given a test before the experiment. The collected data was analyzed through Independent Sample T Test by SPSS26.0. The results can be seen in Table 1:

Table 1
Independent Sample T-Test OF English Proficiency Pre-test In Experimental Class and Control Classes

The experimental class		The controlling class						T Value	P Value
Class 1		Class 2		Class 3		Class 4			
Average score	Standard deviation	Average score	Standard deviation	Average score	Standard deviation	Average score	Standard deviation	-.302	.651
67.45	10.675	67.23	10.680	68.01	11.061	67.56	11.057		

According to the data of Table 1, we can see that the average score of the experimental class was 67.45. The average scores of the control classes were 67.23, 68.01

and 67.56 respectively. There was very little difference in average score between the four classes. The standard deviation of the experimental class was 10.675, which

was slightly lower than that of the control classes（10.680, 11.061 and 11.057）respectively. No significant difference in the dispersion of students' score distribution existed. In addition, T value obtained from the independent sample T test was -0.302. P value obtained was 0.651, which was greatly larger than the normal significance level value of 0.05. That indicated the average score difference of the four classes was not statistically significant. That was to say, the students in the experimental class and the control classes were at the same level of English proficiency before the experiment, which met the experimental conditions.

All the participants were given a post-test to compare the changes of students' scores between the experimental class and the control classes after two semesters of teaching experiment. All the data obtained was also statistically analyzed by an independent sample t-test. The results are shown in Table 2.

Table 2
Independent Sample T-Test OF English Proficiency Pre-test In Experimental Class and Control Classes

The experimental class		The controlling class						T Value	P Value
Class 1		Class 2		Class 3		Class 4			
Average score	Standard deviation	Average score	Standard deviation	Average score	Standard deviation	Average score	Standard deviation	3.64	.032
76.56	8.006	71.62	8.349	70.39	8.730	69.67	8.928		

As can be clearly seen from the data analysis in Table 2, the average score of the experimental class was 76.56. The average scores of the control classes were 71.62, 70.39 and 69.67 respectively. This demonstrated that after two semesters of teaching experiment, the students' test scores in the four classes have all improved a lot. However, the average score in the experiment class was much higher than that of the control classes. Moreover, T value was 3.64, which changed from negative to positive. P value was 0.032, which was less than 0.05. All these showed there was a significant difference between the grades of students in the experimental class and the grades of students in the control classes. Therefore, compared with the grades of students in the control classes, the students in the experimental class have made greater progress in their English learning, which in turn proves that the dynamic assessment model of college English flipped classroom based on mobile learning could have a positive impact on students' academic achievements.

5. CONCLUSION

In this study, a diversified dynamic assessment system based on the combination of mobile learning and flipped classroom was constructed, which not only enhanced students' motivation and interest in English learning, provided more opportunities for cooperation and communication between teachers and students, but also improved students' autonomous learning ability and comprehensive application ability of language. In conclusion, the construction and application of the new dynamic assessment model can achieve the goal of improving the quality of college English teaching, thus opening up a new situation for the standardization and scientization of the college English teaching assessment system.

However, there exist some limitations in the study. Firstly, the scope of the subjects is confined to 201 non-English major students from Taishan University. Therefore, the research was not carried out in large scale. the gathering and analysis of the experimental data are not sufficient. The statistical results are not comprehensive. Secondly, students' learning process is complex, which always develops with their psychological and physiological changes. Some important elements cannot be quantified and can only be evaluated from a qualitative perspective. Thirdly, the energy of the English teachers is limited. They have not enough time to focus on the changes of each students' learning attitudes, emotions, and learning conditions before and after class. Thay cannot collect a large amount of data and information from online platforms during the learning process and provide mor effective feedback. Fourthly, due to the differences in English level and personality, students' assessment is sometimes subjective, which inevitably leads to arbitrariness and blindness and needs to be adjusted by teachers.

To sum up, the dynamic assessment of college English flipped classroom based on mobile learning is still in the stage of continuous exploration and development in many countries. The implementation effects of this new dynamic assessment model in college English teaching still needs to be verified through long-term and extensive empirical research by more English teachers. On the one hand, it is necessary for teachers to continuously explore relevant theories related to mobile learning, flipped classroom, and dynamic assessment. Based on the actual teaching situation and students' English level, more reasonable teaching assessment scales should be designed, more equitable assessment criteria should be established to avoid the subjectivity and blindness of evaluation; On the other hand, teachers should be trained to proficiently utilize various online learning platforms and software to explore the more comprehensive and objective teaching assessment models that are truly suitable for college students in order to finally achieve the goal of improving the teaching quality of College English.

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