Construction of military English formative assessment model based on intelligent teaching platforms

Lanjie Li*, Yin Wang and Danqiu Qiao

Xi'an Research Institute of Hi-Tech, Xi'an, China

*Corresponding author: 410261452@qq.com

Abstract. The integration of formative assessment and summative assessment is the dominant method and reform direction of contemporary teaching assessment. In view of the current lack of scientific nature of the formative assessment system, a foreign language teaching platform, an oral training apps, a writing evaluation system and rain class are integrated to construct the formative assessment model of military English. The model covers listening, speaking, reading and writing skills in the phases of before, during and after classes, providing reference for military and college English teaching reforms in China.

Keywords: Teaching platform; formative assessment; military English.

1. Introduction

Education assessment concerns the direction of educational development[1]. With the advancement of education reform, formative assessment or process assessment has been paid more and more attention, which is an urgent subject to be improved and perfected in the field of education. In 2019, *Opinions of the Ministry of Education on Deepening the Reform of Undergraduate Education and Teaching and Comprehensively Improving the Quality of Talent Cultivation* mentioned that "we should improve the academic evaluation system that organically combines the process assessment and the result assessment, and comprehensively apply various forms of written tests, oral tests and tests without standard answers. We will scientifically determine the weight of classroom questions and answers, academic papers, research reports, homework tests, and periodic tests."[2]

In October 2020, the CPC Central Committee and the State Council issued *the Overall Plan for Deepening the Reform of Educational Evaluation in the New Era*, which proposed that "adhere to science and effectiveness, improve result evaluation and strengthen process evaluation"[1]. It requires that educational institutions and teachers must improve the level of teaching evaluation, build a scientific, reasonable, comprehensive and effective formative assessment system, give full play to the function of formative assessment in promoting teaching, and effectively improve the quality of talent cultivation.

2. The Concept of Formative Assessment

In 1967, Scriven first used "Formative Assessment" in his book *Evaluation Methodology* and gave its definition: Formative evaluation provides feedback for ongoing educational activities by diagnosing problems existing in educational programs or plans, educational processes or activities, so as to improve the quality of ongoing educational activities in practice[3]. Since then, many scholars have redefined formative evaluation, but it has not received enough attention. It was not until 1998 that Black and William conducted a comprehensive study on formative evaluation, which set off a boom in the study and practice of formative evaluation[3].

In October 2006, at the first FAST (Formative Assessment for Students and Teachers) meeting, participants gave the following definitions of formative assessment: Formative evaluation is a process used by teachers and students in teaching to provide feedback for adjusting ongoing teaching and learning, so as to improve students' performance and achieve expected teaching effects[4]. Formative evaluation refers to other teaching activities carried out by teachers and students in the teaching process, and the information provided by these activities is used by teachers and students as feedback

to adjust the subsequent teaching and learning activities. Therefore, the author thinks that process assessment is an activity form of formative assessment.

The purpose of formative assessment is not to test what students have learned and give test results, but to identify problems in educational programs and make decisions on how to improve them, and to use evaluation-related skills and processes to guide teaching and promote students' learning. The significance of formative assessment lies in that, through evaluation in the learning process, problems existing in teaching and learning can be found and solved in time, so as to give feedback to teachers and students, point out the direction of future teaching activities and strengthen the learning effect[6].

3. Construction of the Formative Assessment Model

The Overall Plan for Deepening the Reform of Educational Evaluation in the New Era points out that the scientific nature, professionalism and objectivity of educational assessment should be improved[1]. With the deepening of blended teaching reforms, some research achievements have been made in both instructional design and practice of blended teaching, but the quality of formative assessment of college English teaching needs to be improved[7]. In order to make the formative assessment of college English courses more scientific, professional, objective and comprehensive, the university where the author works has introduced three kinds of teaching platforms, together with the free rain class, which fully covers the skills of listening, speaking, reading and writing, constituting a formative assessment model. The platforms provide instantaneous and efficient feedback, which can help teachers and students find the problems existing in teaching and learning in time, so as to effectively adjust the following teaching activities and improve the effect of teaching and learning.

The formative evaluation mode of military English is shown in Figure 1. The teaching platforms include a college foreign language teaching platform, an oral training apps, a writing evaluation system and rain class.

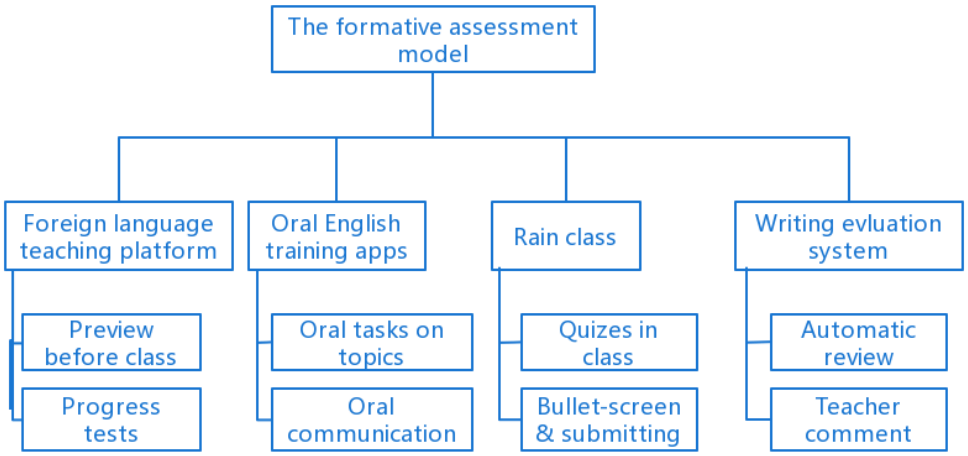


Fig. 1 The formative assessment model

The college foreign language teaching platform is a foreign language teaching management platform that provides online learning, interactive communication, teaching management, assessment and test support for college foreign language teachers and students. Our school uses two sub-platforms of this platform: campus intelligent teaching cloud platform and intelligent assessment cloud platform. The campus smart teaching cloud platform provides learning content matching with textbooks, provides personalized learning paths for learners, and provides data-based learning situation prediction and teaching intervention suggestions for teachers. The intelligent assessment cloud platform provides online assessment resources and services for foreign language teaching in colleges and universities, supports teachers to manage exams and classes, invigilate exams and check

score reports, and supports students to conduct tests and training, making it more convenient for teachers and students to promote teaching by testing and learning by practicing.

The oral training apps is an application for learning oral English. Teachers can use this system to assign topics related to reading and writing or audio-visual speaking courses to students. Students can not only complete the tasks, but also carry out oral autonomous training. System from pronunciation accuracy, reading fluency, vocabulary and grammar, length and coherence of discourse, communicative flexibility and relevance and other multi-dimensional feedback, clear diagnosis of pronunciation problems, improve oral communication skills.

Rain class is integrated with PowerPoint and Wechat to build a bridge between the previewing section and classroom teaching section. Before class, teachers can share preview courseware with MOOC videos, exercises and audios to students and make use of real-time answers, bullet-screen interaction and submitting in class, so that teachers can timely and fully understand students' cognitive level and difficulties, so as to design and adjust teaching accordingly.

The writing evaluation system is an online system that automatically corrects English compositions by computer. Just as doctors use CT machines, teachers can use the writing evaluation system to automatically scan various parameters of students' compositions. By comparing the distance between students' compositions and the standard corpus, teachers can map the number of components and comments through certain algorithms, and give specific feedback and suggestions from the aspects of language expression and sentence structure. It also provides learning tips, recommended expressions, expanded discrimination and other knowledge points. Teachers can manually review the composition, from the perspective of ideas, article frame and other aspects to help students modify and improve the composition, improve the writing ability.

4. Implementation the Formative Assessment Model

The implementing steps of the formative assessment model are shown in Fig. 2, which are carried out in three stages: before, during and after class.

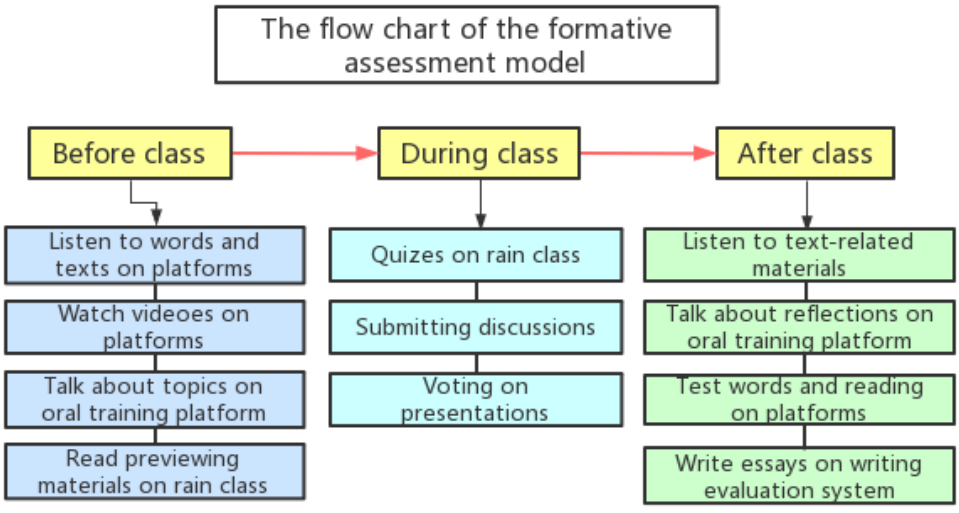


Fig. 2 The flow chart of the formative assessment model

4.1. Preview before class

By using the learning content of the campus intelligent teaching cloud platform and the textbook, students' preview is no longer just relying on the text materials in the textbook. They can easily listen to the pronunciation of the words and texts in the textbook with their mobile phones. They can also watch and listen to the video and audio of the textbook in advance, making the preview more

comprehensive and three-dimensional. The oral training apps breaks the limitation of classroom time, allows every student to participate in the discussion and expression of the topic, and can get multidimensional feedback on pronunciation, grammar, fluency, vocabulary use, coherence, communication and other aspects, which is convenient for teachers to know students' views on the topic in advance, so that the teaching activities are more targeted.In addition, before class, teachers send relevant videos, micro lessons, background information to students through the rain class, as well as exercises to check the preview situation, so as to facilitate teachers to grasp students' knowledge reserve level and difficult points, so as to make the classroom teaching targeted.

4.2. Learning during class

In the classroom, mainly use the rain classroom to assist teaching and evaluation. In addition to signing in class, some knowledge points or language skills in the teaching process, intersperse with fill-in-the-blank, multiple choice or judgment exercises, which can not only adjust the classroom atmosphere and combine teaching activities with relaxation, but also accurately understand students' mastery according to the exercise data provided by rain class. The bullet screen function of Rain Class allows students to post their opinions and comments anonymously.The contribution function can easily see the translated sentences of all the students in the class, no matter it is input by mobile phone or written on paper, take photos and upload, so that ordinary classrooms can also carry out wisdom teaching. After the group discussion, we can also use the contribution function to show the results of the group discussion to the whole class, and the group representatives will speak more rule-based. The use of rain classroom voting function can achieve student evaluation, students can vote on the display, performance, discussion and so on. At the end of a class, the Rain Class generates a class report, giving students scores and rankings based on their participation in the rain class.

4.3. Practice after class

After class, students can use the campus intelligent teaching cloud platform to listen to the audio and video that they did not hear clearly or understand clearly in class. For oral assignments, they can be assigned on the oral training apps to ensure that every student participates and records the results. After learning a unit, vocabulary exercises, reading exercises or unit comprehensive tests will be released on the intelligent evaluation cloud platform to understand students' mastery of the situation, timely discover the existing problems in teaching and learning, and provide references for the next teaching activities. For written work such as composition, questions will be assigned on the writing review system and assignment numbers will be issued. Students can submit and revise their compositions unlimited times according to feedback and suggestions from the machine. Teachers can conduct manual review and give comments and feedback from perspectives, ideas, layout and other aspects.

4.4. The overall rating of formative assessment

The above are the implementing steps of the formative assessment model. When formulating the overall rating of formative assessment, five parts and their proportions are determined from the three steps, as shown in Fig. 3. The preview part accounts for 15%, which is given by teachers who synthesize students' task completion in oral training apps, rain classroom and campus teaching cloud platform; classroom performance also accounts for 15%, which is determined by combining classroom reports in the rain class and students' participation in other offline classroom activities. Oral assignment accounts for 20%, which is determined by taking the average score according to the completion of tasks on the oral training apps; written assignment accounts for 25%, according to the score of the writing review system plus work this assignment given; the progress test is 25%, determined by the average score of the intelligent assessment cloud task.

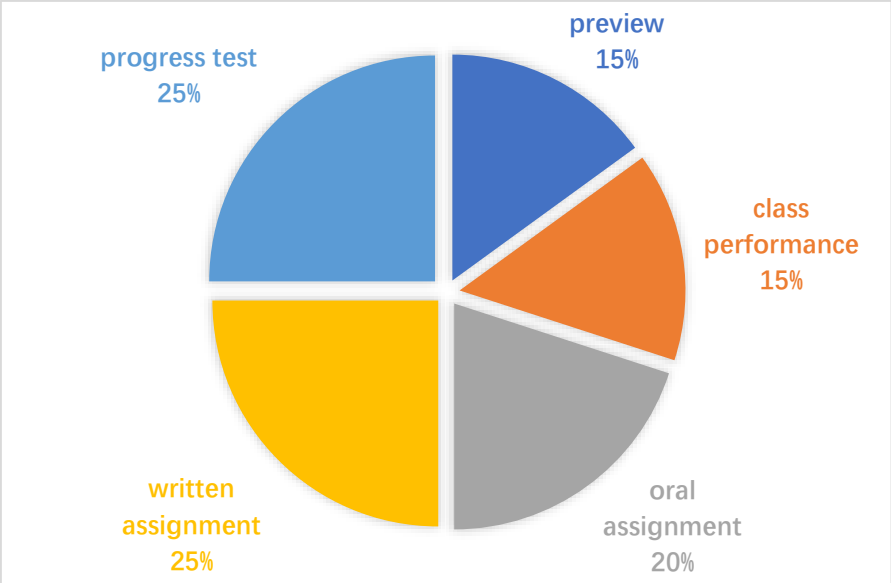


Fig. 3 The overall rating of the formative assessment model

5. Summary

After two semesters of experiment, the passing rate of the first CET-4 of students of Grade 2021 has increased by about 5% compared with those of Grade 2020, and the average score of the two final exams has increased by 3.8 points. The number of students who participated in the College Students English Competition and entered the special prize of Shaanxi Province has increased from 3 in 2021 to 5 in 2022, and the results of the third round of "FLTRP·ETIC Cup" has also made a breakthrough. For the first time, one contestant for the speech contest and the reading contest respectively has entered the national finals and were awarded.

Formative assessment plays a significant role in teaching, especially in language learning which requires gradual and cumulative learning. The formative assessment model of military English based on a foreign language teaching platform, an oral training apps, a writing evaluation system and the rain class can be constructed to comprehensively and effectively supervise the learning and strengthening of students' listening, speaking, reading and writing skills before, during and after class. The scientific, timely and accurate feedback of the platform can help teachers and students find the problems and difficulties in teaching and learning in the first time, realize the purpose of promoting teaching by evaluation and learning by practice, and strengthen the effect of learning.

Acknowledgements

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