Article

Construction and Application of Formative Evaluation System of Junior Middle School Chinese under the Background of Digitalization

Moshuhan Li, Xiangdong Liang*

College of Humanities and Education, Liaodong University, Dandong 118003, China.

*Corresponding author: Xiangdong Liang, 1773563426@qq.com.

COPYRIGHT

Abstract: This paper discusses the application of formative assessment in junior high school Chinese teaching under the digital background. By establishing systematic assessment methods, establishing diversified assessment subjects, expanding the application scope of assessment and expanding assessment methods, it puts forward a three-dimensional innovation framework of "technical empowerment + subject collaboration + standard stratification". It has effectively improved students' interest in learning, Chinese literacy and comprehensive ability. Formative evaluation not only promotes students' all-round development, but also improves teachers' teaching efficiency and injects innovative vitality into the new curriculum reform.

1. Introduction

At present, there are obvious structural contradictions in the evaluation of junior middle school Chinese curriculum. On the one hand, relying too much on the final evaluation methods such as final exams and course papers, although the quantitative results can reflect the stage knowledge mastery, it is difficult to capture the dynamic trajectory of students in the development of core literacy such as text interpretation, critical thinking and cultural understanding; On the other hand, the standardized evaluation framework ignores the individual differences of students, and adopts a "one size fits all" evaluation standard for learners with different language foundation, learning style and interest specialties, which leads to some students reflecting that the evaluation results fail to accurately reflect their real learning input.

Formative evaluation, as an evaluation method centered on students' learning process, emphasizes process management, dynamic feedback and multiple participation, aiming at stimulating students' learning initiative and promoting students' deep learning and ability expansion through the two-way interaction between teachers and students (Lu, 2025). Formative evaluation, as a dynamic evaluation mechanism that runs through the whole teaching cycle, is essentially to promote the spiral development of learners' cognitive ability through a closed-loop system of continuous observation, immediate feedback and teaching regulation. This concept was systematically put forward by American educational psychologist Kronbach in 1960s. It is based on constructivist learning theory and feedback adjustment mechanism, and highlights the subjective role of learners in the process of knowledge construction. Compared with the traditional summative evaluation, which relies on quantitative results, formative evaluation focuses more on the process performance in teaching implementation, and realizes the continuous optimization of teaching efficiency through the dynamic tracking of the degree of goal achievement in stages. In 1989, Sadler formally defined formative assessment for the first time in a summary, that is, formative assessment optimizes junior high school Chinese classroom in the information age by analyzing and judging students' performance (answers, works or homework), and the new teaching model gradually replaces the traditional teaching model. In junior high school Chinese classroom teaching, it is an irresistible trend to optimize the classroom process planning by using smart campus

technology, promote students' cognitive development and reduce random and inefficient "trial and error learning" (Sadler, 1989). Black and William classify formative assessment as a kind of teaching practice, pointing out that formative classroom practice means that "teachers, learners or their peers will draw out, explain and use evidence about students' achievements, so as to make decisions on the next step of teaching, which may be better or more well-founded than those they make without such evidence" (Black and Wiliam, 2009).

In junior high school Chinese classroom in the information age, the new teaching mode gradually replaces the traditional teaching mode. It is an irresistible trend to use smart campus technology to optimize the classroom in junior middle school Chinese classroom teaching (Wu, 2018). Formative evaluation constructs a three-dimensional interactive model of "observation-feedback-improvement". How to use formative evaluation in junior middle school Chinese under the digital background is a compulsory subject in Chinese teaching reform. This study puts forward a three-dimensional innovation framework of "technical empowerment+subject cooperation+standard stratification" in order to provide reference for junior middle school Chinese teaching.

2. The necessity of formative assessment in junior high school Chinese teaching

As an indispensable part of the education system, the application of teaching evaluation in junior high school Chinese teaching is worthy of in-depth discussion.

2.1. Evaluation of the lack of participation

For a long time, the evaluation system often focuses on the dominant position of teachers and the single form of written examination, and relies too much on the quantitative evaluation of scores to measure students' mastery of knowledge and skills, but ignores the dynamic observation and continuous feedback of students' learning process. This evaluation method fails to fully reflect students' learning effectiveness and potential to some extent (Lu, 2012). This evaluation system, mainly led by teachers, ignores students' psychological growth, fails to fully tap the cultural

connotation and aesthetic value of Chinese, and the evaluation content is too narrow, which not only weakens students' interest in daily Chinese learning, but also significantly reduces the efficiency of Chinese learning.

2.2. A single evaluation system

Most of the existing evaluation systems are based on final exams and written assignments, and the evaluation results are limited to paper scores and rely too much on summative evaluation (Zhu, 2024) Although this method can reflect students' knowledge accumulation to a certain extent, it ignores the dynamic development of students' learning process. For example, it is difficult to accurately capture and evaluate students' logical thinking ability in classroom discussion, their ability to apply knowledge in practice and changes in their emotional attitudes, which leads to the lack of comprehensiveness and depth in teaching evaluation. At the same time, the evaluation content mostly focuses on the mastery of textbook knowledge and text analysis ability, focusing on students' memory and simple application of basic Chinese knowledge, ignoring the comprehensive examination of their language expression, cultural literacy and innovation ability.

2.3. Ignore the formative evaluation in the process evaluation

Traditional teaching evaluation often focuses on summative evaluation, that is, evaluating students' academic performance through one or several exams. This kind of evaluation method is too simple, ignoring the concern of students' learning process, which is easy to lead to the phenomenon of "one exam for life". At the same time, relying too much on the quantitative evaluation of scores ignores the investigation of non-intellectual factors such as students' emotional attitude and innovation ability, which is not conducive to students' all-round development.

2.4. The requirements of junior high school Chinese teaching reform

Under the background of current educational reform, teachers need to pay close attention to each student's personalized learning process and unique needs, actively build an open and interactive teaching environment, and strengthen in-depth exchanges and communication with students. Through careful observation and

understanding of each student's interests, learning obstacles and growth goals, we can provide more accurate and targeted teaching guidance and support.

At the same time, schools need to be able to grasp the progress and effectiveness of the implementation of curriculum standards in real time, so as to find out the problems and shortcomings in the teaching process in time, provide strong data support and decision-making basis for teaching reform and optimization, and ensure the continuous improvement of education quality and the all-round development of students (Han, 2015).

3. The implementation method of formative assessment in junior high school Chinese teaching under the digital background

3.1. The establishment of a systematic evaluation method

The core of formative assessment is "process-oriented" and "promoting learning by evaluation". It doesn't just give a summary score like the final exam, but collects students' learning evidence in various ways in daily teaching. Teachers use this evidence to adjust teaching strategies, and at the same time let students know clearly their progress and the direction of their next efforts.

We designed a junior high school Chinese classroom activity scale, which emphasizes student-centered, and helps students understand knowledge and construct knowledge system through digital tools to stimulate students' subjective initiative. After consulting the "National Cloud Platform for Smart Education in Primary and Secondary Schools", we use Gen AI tools such as "iFLYTEK Spark", "Bean Bag", "Kimi" and "ERNIE Bot" to design the teaching process of smart lesson preparation, smart aid and smart evaluation. Use the online learning platform to record students' performance in classroom discussion, group cooperation and other activities, score them according to the star rating, and record specific and representative behaviors in the "Remarks" column.

Junior high school Chinese classroom activity scale is mainly used to record students' performance in classroom discussion, group cooperation and other activities (**Table 1**). Gen AI works evaluation and pre-and post-test evaluate students' learning

enthusiasm, classroom attention, teamwork awareness, overall application of complex skills and mastery of theoretical knowledge during the completion of learning tasks.

Specifically, in order to meet the specific needs of various stages of classroom teaching, I try to build a comprehensive evaluation system in actual Chinese teaching, which includes multiple evaluation methods such as "self-evaluation by students, mutual evaluation by students, evaluation by teachers", "combined evaluation in and out of class" and "evaluation of teaching process", aiming at truly, comprehensively and objectively revealing students' learning dynamics and teachers' teaching effectiveness, and generating comprehensive evaluation feedback.

Table 1

Junior high school Chinese classroom activity scale

Student name	Participation	Team spirit	Speech quality	Thinking activity	Remarks
Zhang San	★★★★☆	★★★☆☆	★★★★☆	★★★★☆	And quote the content of the text
Lisi	★★☆☆☆	★★★★☆	★★★☆☆	★★★☆☆	Group discussion is very active, but less active hands.

We use star rating (1-5 stars) or excellent, good, medium and poor to record. "Remarks" column is very important to record specific and representative behaviors, such as "asking a deep question" or "helping students in the same group to clear their minds".

Chinese teachers can use the online learning platform to carry out Chinese teaching activities, such as publishing learning tasks, assigning homework, and conducting tests (Xiang, 2015). The platform can automatically record students' learning behaviors and results, and provide rich data support for formative evaluation. For example, teachers can arrange reading tasks on the platform and ask students to answer relevant questions after reading. The platform will immediately feedback the students' answers, so that teachers can understand the students' reading comprehension. Digital software learning can achieve this. The content of Chinese course is very rich, and the content and form of examination should also be richer. For example, story-telling contest, speech contest, five-minute poetry explanation before class, etc., to examine students' oral expression ability and psychological quality;

Hold a limited writing competition, a dictation competition for classical Chinese and long poems, etc., to examine students' writing ability and writing ability; Dictate idioms and famous sayings, write corresponding idioms or poems according to the teacher's meaning, etc., and test students' dictation ability; Such Chinese activities can not only provide basis for teachers and students to make timely adjustments according to the feedback results, but also give full play to the positive role of formative evaluation in inspection, feedback and encouragement, thus promoting the continuous optimization and improvement of teaching effect.

We analyze the characters in Kong Yiji, a junior middle school Chinese text, to see how formative assessment can be implemented.

3.1.1 Evaluation objectives

Students can sort out the plot of the novel and find out the key sentences describing Kong Yiji.

Students can analyze these sentences and sum up Kong Yiji's personality characteristics.

Students can combine the background of the times to explore the root of the tragedy of the characters.

3.1.2 Evaluate the implementation process

(1) preview before class: diagnostic evaluation

Task: Let the students read the text, use agent software to complete a list of characters' relationships, and write down their first impressions of Kong Yiji in three words.

Evaluation: Teachers browse quickly to understand students' preview and initial cognitive level, and find out the common confusion points as the starting point of classroom teaching.

(2) Discussion in class: Process evaluation

Task 1: Work in groups, find out the sentences describing Kong Yiji's "appearance", "language" and "action" from the text, fill them in the analysis worksheet, and discuss what characteristics these descriptions show him.

Evaluation: Teachers patrol each group, observe students' participation and cooperation, guide the difficulties in group discussion, and give oral feedback in time.

Task 2: Share with the whole class. Each group will send representatives to speak. The teacher will summarize the opinions of each group on the blackboard.

Evaluation: Teachers guide students to compare and supplement different viewpoints, pay attention to whether students can cite textual evidence to support their own viewpoints, and give affirmation and praise to in-depth analysis.

(3) Homework after class: the combination of summative and diagnostic.

Task: Write a character analysis of about 200 words, and ask to analyze one of Kong Yiji's personality characteristics in combination with specific sentences.

Evaluation: When correcting, teachers should focus on whether students have mastered the method of "close reading of texts" and analyze whether it is justified. Comments should be specific, pointing out the advantages (such as "you have grasped the detail of' discharging nine pence', and the analysis is in place") and the direction of improvement (such as "if you can combine the social background at that time, your analysis will be more in-depth")

3.1.3 Application of evaluation results

For teachers: according to the performance of students in each link, judge whether students have achieved the teaching goal. If most students have difficulty in "combining with the background of the times", then in the next class or subsequent extended reading, it is necessary to add relevant historical background introduction.

For students: Through teachers' oral feedback and written comments, students clearly know where they are doing well and where they need to improve. This can stimulate their learning motivation and guide them to think more deeply than a simple score.

3.2. Establish a diversified evaluation subject

Formative evaluation aims at monitoring and promoting the learning process, and its function is not limited to being a tool for teachers, but also directly serving students to support their self-evaluation and adjustment of learning progress. Students should play the core role of formative evaluation. Through self-evaluation and interactive participation, teachers can get more comprehensive, fair and close to the actual situation.

We can carry out diversified Chinese activities, such as story-telling contest, speech contest, poetry reading, etc., and record and evaluate them through digital tools. For example, digital video recording software is used to record students' speech process, and teachers, students and parents are invited to participate in the evaluation through online evaluation system, and scoring and feedback are made from multiple dimensions such as content, expression and body language (see **Table 2**).

Table 2

Peer Evaluation Scale

Evaluation project	Evaluation criterion	Peer a	Peer b	Peer c	Self-assessment
Mission accomplished	Be able to finish the responsible part on time and with high quality.				
Teamwork	Actively participate in discussions and be willing to help others.				
Communication and expression	Express clearly and listen to others' views carefully.				
Contribution degree	Make substantial contributions to the final results of the group.				

Please write down a place where you think the student did best and a suggestion that can be improved. After the evaluation, you can have a short exchange in the group and share the evaluation results. Teachers can take the results of peer evaluation as one of the references for the overall evaluation.

For example, composition teaching activities are generally divided into three evaluation steps: first, the teacher scores after the composition are completed; Second, students rate each other and propose amendments; Third, on the basis of summarizing the revised opinions, students rewrite their writing, and then they are graded by teachers and groups.

Learning reflection sheet

Learning diary/reflection list (as shown in **Table 3**), taking the completion of a composition as an example, is a tool for students to reflect on themselves, helping them sort out their ideas and clarify their progress and shortcomings.

Table 3

Chinese learning reflection sheet

Project	Content
My reflection on writing	1. This writing goal: What is the central idea I want to express?
	2. My efforts: What preparations have I made to finish this composition? (such as outlining, consulting materials, revising drafts, etc.)
	3. My highlight: What do I think is the best part of this composition? Why?
	4. My confusion: What is the biggest difficulty I encountered in the process of writing?
	5. My plan: According to the feedback from teachers and classmates, how do I plan to modify or improve it next?

It can be used after finishing big homework or unit study. Teachers can deeply understand students' learning process and inner thoughts by reading the learning log.

3.3. Expand the scope of application of evaluation

As a language subject, Chinese aims to teach students to master listening, speaking, reading, writing and various skills. Language acquisition mainly depends on practical application, and the time of classroom teaching is limited, so a lot of practical opportunities usually exist in the after-school learning stage (Wu, 2021) The application scope of digital evaluation should be extended to extracurricular activities, and the actual performance of students in and out of class should be considered comprehensively. Use digital tools to record and evaluate students' extracurricular practical activities, such as independent reading, social investigation and cultural experience.

3.4. Expand the evaluation methods

In the past formative assessment practice, many Chinese educators often used classroom questioning as a means to evaluate students' performance and understanding in the learning stage (Che, 2017).

3.4.1 Combination of written evaluation and oral evaluation

Combining written evaluation and oral evaluation, using digital tools to record and feedback. Teachers can write written comments on the online learning platform, and communicate with students orally through voice or video functions to provide more comprehensive and personalized evaluation.

3.4.2 Use digital tools to combine quantitative evaluation with qualitative evaluation

Quantitative analysis of students' learning data through data analysis software, such as test scores and homework completion rate (Yang, 2025). Combine students' works, reflection logs and other qualitative materials for comprehensive evaluation, and comprehensively reflect students' learning process and achievements.

3.4.3 Combination of real-time evaluation and stage evaluation

Using digital tools to realize the combination of real-time evaluation and phased evaluation. For example, the online learning platform can record students' learning behavior and performance in real time and provide immediate feedback; At the same time, after the end of each learning stage, a summary evaluation is made to analyze the students' learning progress and existing problems, so as to provide a basis for the next stage of teaching.

4. Conclusion

Formative evaluation, as a humanistic evaluation method, emphasizes that the evaluation process should be deeply integrated into students' life situations and fully recognize students' unique values, aiming at stimulating their inherent potential. The core of this strategy lies in continuously monitoring students' learning process, constantly adjusting teaching strategies to meet students' individual needs through positive feedback and support, and finally promoting students' active participation in learning, significantly improving their learning enthusiasm and actual results. When

adopting formative evaluation strategy, it is very important to ensure that students know the evaluation criteria clearly in advance. Therefore, in the future practice, we should focus on strengthening the quantitative setting of specific evaluation indicators to ensure that the formative evaluation mechanism can effectively promote and enhance the quality and efficiency of junior high school Chinese education.

Conflict of interest: The authors declare no conflict of interest.

References

[1] Black, P., & Wiliam, D. (2009). Developing the theory of formative assessment. *Educational Assessment, Evaluation and Accountability*, 21(1), 5–31.

[2] Che, M. (2017). On the situational application of Chinese classroom in primary schools. *Electronic Magazine of New Education Era (Student Edition)*, *000*(023), 18–26.

[3] Han, P. (2015). On the infiltration of formative evaluation in junior middle school Chinese teaching. *Reference for Middle School Chinese Teaching: Zhong Xun Journals*, (6), 3–4.

[4] Lu, G. (2012). An attempt of formative assessment in junior middle school Chinese classroom teaching. *Modern Reading (Education Edition)*, (04), 311–312.

[5] Lu, X. (2025). Construction of college Chinese teaching evaluation system based on formative evaluation. *New Curriculum Research*, (12), 7–9.

[6] Sadler, D. R. (1989). Formative assessment and the design of instructional systems. *Instructional Science*, 18(2), 119–144.

[7] Wu, J. (2018). Exploration of Chinese digital teaching under the background of smart campus. *New Education (Hainan)*, (29), 3–6.

[8] Wu, S. (2021). *Research on writing teaching strategies based on the development of senior high school students' speech intelligence* [Doctoral dissertation, Sichuan University of Light Chemical Technology].

[9] Xiang, H. (2015). Research on the application of teaching tools based on interactive e-bag in junior middle school Chinese classroom teaching reform. *China Audio-visual Education*, 000(0z1), 232–236.

[10] Yang, J. (2025). *Teaching design and practical research on "comprehensive learning" of junior middle school Chinese based on Gen AI* [Master's thesis, Ningxia University].

[11] Zhu, W. (2024). The application of formative assessment in junior high school composition teaching: Taking the classroom composition "This is what youth looks like" as an example. *Chinese Learning*, (3), 52–57.