

Research on the Cultivation of High School Students' High Order Thinking Ability Based on the Theory of Performance Evaluation

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Abstract: High order thinking abilities in Chinese language for high school students include analysis, evaluation, and creativity, which possess intrinsic and non-visual characteristics. Performance evaluation can visualize thinking through performance tasks and scoring criteria, accurately evaluate and enhance students' high order thinking abilities in Chinese language based on their performance. When evaluating and cultivating high school students' high order thinking abilities in Chinese language using performance evaluation, teachers need to establish clear performance objectives, design performance tasks that align with students' high order thinking, and make the performance evaluation rules transparent to students, encouraging their participation in the development of evaluation criteria.

Keywords: Performance evaluation, high school Chinese language, core literacy, high order thinking ability, evaluation

1. Introduction

As education reform continues to deepen, cultivating students' higher-order thinking skills has become one of the important tasks in the field of education. Chinese language education, as an integral part of cultivating students' comprehensive qualities, also needs to focus on students' thinking development. However, traditional methods of evaluating Chinese language often place excessive emphasis on assessing students' knowledge mastery and memorization abilities, while lacking in the cultivation and evaluation of students' higher-order thinking skills. Therefore, this article aims to a teaching method that is primarily based on performance assessment, in order to cultivate high school students' higher-order thinking skills in Chinese language.

2. Core Literacy and High-level Thinking Skills in Chinese Language Education

Chinese proficiency generally refers to the organic integration of students' language accumulation, thinking and emotions, thinking qualities, aesthetic tastes, and more in Chinese learning. The core literacy in Chinese language discipline refers to students' acceptance of Chinese education, preliminary formation of Chinese literacy, and the organic combination with the common core literacy of basic education curriculum. It gradually develops the basic knowledge, essential qualities, and key abilities that can promote individuals' lifelong development and adapt to future society.^[1] It includes four developmental levels: language construction and application, thinking development and enhancement, aesthetic appreciation and creativity, and cultural inheritance and understanding.^[2] The emphasis on cultivating Chinese core literacy varies at different stages of education. Generally speaking, in compulsory education, Chinese teaching undertakes the task of imparting relatively heavy language knowledge, and the quantity of language knowledge "accumulation" is the main indicator for students' Chinese core literacy at this stage. By high school, students who speak Chinese as their tongue have basically acquired a relatively complete structure of language knowledge. High school students have accumulated certain knowledge and reading and expression abilities, and their psychological development has transitioned from the stage of image thinking to abstract thinking, with improvement. Therefore, developing students' thinking qualities through the imparting of basic knowledge becomes an important educational task in high school Chinese teaching. The quality of Chinese thinking also becomes an important indicator for evaluating high school students' Chinese core literacy.^[3]

According to the revised Bloom's taxonomy of educational objectives by Anderson et al., the first three cognitive processes, namely, remembering, understanding, and applying, belong to relatively simple cognitive abilities and can be referred to as "low-order thinking abilities." The latter three processes, analyzing, evaluating, and creating, belong to more complex cognitive abilities and can be referred to as "high-order thinking abilities."^[4] Based on the characteristics of high school Chinese teaching, high-order thinking abilities of high school students in Chinese can include analytical thinking ability, evaluative thinking ability, and creative thinking ability.

2.1 Analytical Thinking Skills

Analysis involves breaking down materials into their constituent parts and determining how these parts are interconnected and related to the overall structure. This process includes the cognitive processes of distinguishing, organizing, and attributing. In the process of high school Chinese language learning, teachers aim to develop the following analytical abilities in students: (1) distinguishing between opinions and facts; (2) connecting conclusions with supporting statements; (3) distinguishing relevant information from external materials; (4) understanding implicit assumptions not explicitly stated in the context; (5) identifying evidence to support the author's purpose.

2.2 Evaluative Thinking Skills

Evaluation refers to making judgments based on criteria and involves the cognitive processes of verifying and judging. For example, when studying expository texts, students need to determine whether the text exhibits internal consistency. Teachers can provide corresponding data or information for students to verify if there are logical errors in the expository text. Judgment is at the core of critical thinking and involves making judgments about a product or process based on external standards or specifications. For example, teachers should teach students to judge which of two possible methods is the most effective and efficient way to solve a given problem.

2.3 Creative Thinking Skills

The creative thinking process can be divided into three stages: problem representation, where students try to understand the task and generate possible answers; problem planning, where students need to explore various possibilities and design potential plans; and problem solving, where students successfully implement the plan. Therefore, the cultivation of creative thinking skills begins with divergent thinking, where students strive to understand the task and consider multiple possible answers, i.e., generation. This is followed by convergent thinking, where students design solution methods and convert them into action plans, i.e., planning. Finally, students execute the plan, simultaneously constructing the answer, i.e., production. Creativity is closely connected to generation, planning, and production.^[5]

High-level thinking skills in Chinese language involve internal and invisible abilities that need to be made "visible" through certain means or effective methods. Performance evaluation focuses on students' authentic performance and emphasizes the assessment of their high-order abilities. This not only makes students' thinking "visible" but also helps develop their high-level thinking skills in Chinese language.

3. The Concept and Characteristics of Performance Assessment

The theory of performance assessment was first proposed by Stiggins and Wiggins. Stiggins stated that performance assessment is a systematic evaluation of learners' ability to apply previously acquired knowledge to solve new and unfamiliar problems or complete specific tasks. Specifically, it involves using authentic or simulated evaluation practices to elicit initial responses, which are then directly observed and judged by high-level evaluators according to certain criteria. The forms of performance assessment mainly include constructed response questions, written reports, essays, speeches, practical activities, experiments, data collection, and portfolio presentations.^[6] Performance assessment is a direct evaluation of students' externalized behavioral performances, emphasizing the creation of authentic contexts that can elicit similar responses to those in real-life situations, even in simulated scenarios, to assess students' abilities to analyze and solve problems in real-life situations. Therefore, it is also referred to as authentic assessment.^[7] Consequently, performance assessment requires students to apply critical thinking to solve complex problems and apply knowledge in authentic contexts, with

the ultimate goal of adjusting and promoting teaching and learning. By analyzing the meaning of performance assessment, we can identify three prominent characteristics that make it superior to other assessment methods.

3.1 Integration and Interweaving of Teaching, Learning, and Assessment

Performance assessment not only guides teachers' teaching and students' learning in a positive direction but also helps teachers and parents diagnose students' strengths and weaknesses to better facilitate their learning development, thereby integrating teaching and assessment.^[8] Teachers can identify core issues that students face in the learning process through students' authentic performances and adjust their teaching focus and methods accordingly to improve teaching through evaluation. At the same time, students can discover their own learning issues through peer and teacher evaluations and take timely remedial actions. Thus, performance assessment changes the traditional separation of teaching, learning, and assessment, achieving an organic unity among the three and creating an ideal state where teaching and assessment revolve around students' learning.

3.2 Focus on Authentic Performance and Evaluation of High-level Thinking Skills

Compared to other forms of assessment, performance assessment places greater emphasis on students' authentic performances and the evaluation of their high-level thinking skills. It transcends the limitations of textbook knowledge by using real-life problem contexts that students encounter as the background for assessing their learning outcomes. It emphasizes assessing students' levels of development in higher-order cognitive abilities such as analysis, evaluation, and creation through performance tasks.^[9] It also emphasizes the use of multiple scales to evaluate students' complex and comprehensive internal abilities based on their behaviors.

Performance assessment requires students to construct responses, emphasizing their ability to create problem-solving methods or demonstrate their learning process and outcomes through their own behavioral performances. It does not require students to select answers but directly evaluates them based on their actual performances in real or simulated authentic contexts. As C.V. Gipps, a British evaluation researcher, pointed out in the book "Beyond Testing: Towards Principles of Educational Assessment," "The most significant features of performance assessment are the directness of the assessment tasks themselves, the highly efficient learning guidance provided by evaluators within the scope of the tasks, and the subjectivity involved in the grading process."^[10] Therefore, performance assessment goes beyond traditional assessments that indirectly evaluate students through paper-and-pencil tests and more accurately captures their internal learning and thinking qualities through their visualized performances.

Chinese language education is closely connected to real-life situations, highly practical, and open-ended. These characteristics align with the authenticity, process-oriented nature, and openness of performance assessment. Performance assessment can play an important role in enhancing students' thinking abilities and adaptability to real-life situations in Chinese language education.

3.3 Visualizing Thinking Processes

As we all know, evaluating education has always been a challenging task, and this also applies to evaluating the implicit ability of "thinking quality". Currently, in European Union countries, there is an evaluation approach that transforms competencies into observable external performances. Core competencies are evaluated through attitude surveys, performance assessments, and other forms, which provide important reference value for how to refine thinking qualities and conduct evaluations.

In high school Chinese language teaching, to cultivate students' thinking abilities in analysis, evaluation, and creation, teachers can develop corresponding performance tasks based on students' behavioral goals. By observing students' performances in these tasks, we can infer and analyze their thinking qualities. Specifically, we can transform the "invisible" thinking activities into "visible" behavioral performances, a process called "visualization". The process of inferring students' internal thinking levels from their external behavioral performances is called "interpretation". Performance assessment can "visualize" students' internal thinking by using performance tasks and "interpret" their external behavioral performances as their internal thinking qualities using evaluation criteria and other tools. It is evident that performance tasks and grading criteria in performance assessment are effective methods and means of visualizing students' internal thinking qualities. For example, to develop

students' creative thinking, after studying the text "Hamlet", teachers can assign creative performance tasks such as designing stage settings for the play. By visually observing students' behavioral performances, we can infer and analyze their thinking qualities and subsequently tailor teaching based on their existing level.

By employing performance assessment and visualizing thinking processes, teachers can gain insights into students' thinking abilities and provide targeted instruction accordingly. This approach not only enhances students' understanding and application of knowledge but also fosters their higher-order thinking skills and creativity.

4. Strategies for Enhancing High-level Thinking Skills in Chinese Language Education through Performance Assessment

4.1 Defining Performance Objectives for Students' High-level Thinking Skills

To cultivate high-level thinking skills in Chinese language education, it is important to set performance objectives that focus on the development of students' analytical, evaluative, and creative thinking abilities. These objectives help teachers identify the types of behaviors to observe and evaluate.

4.1.1 Performance objectives for developing analytical skills

Analytical skills involve students' ability to identify differences and connections between things or phenomena, and to carefully identify the main thread that can solve a problem. In high school, students have developed independent exploration and analytical skills. In Chinese language teaching, teachers should encourage students to take initiative in analyzing problems by clearly defining performance assessment objectives. For example, an objective can be for students to independently identify the central argument of an expository text and explain how the author supports their viewpoint. Through performance tasks, teachers can observe students' ability to analyze problems and provide targeted teaching suggestions.

4.1.2 Performance objectives for developing evaluative skills

Evaluation is at the core of critical thinking, where students make judgments based on certain criteria. To develop students' evaluative skills, teachers can ask them to propose solutions to a specific problem and evaluate their effectiveness. For example, in Chinese language essay writing, teachers can ask students to write an educational proposal on improving education from kindergarten to high school and evaluate their own responses to this problem. After students complete their essays, teachers should encourage them to verify the consistency between the evidence they used and the points they proved, and then present appropriate evaluation criteria to help them make reasonable judgments. Teachers can design different performance tasks according to students' individual performances to promote the development of evaluative thinking skills.

4.1.3 Performance objectives for developing creative thinking skills

Creative thinking requires students to mentally reorganize previously unclear elements into a structured pattern and freely explore within the constraints of learning tasks or contexts. Creativity is often consistent with students' prior learning experiences and closely related to the cognitive processes of generation, planning, and production. When setting performance objectives, it is important to focus on students' cognitive processes such as generating, planning, and producing.

For example, in terms of generating cognitive processes, teachers can set performance objectives that allow students to generate multiple answers for a given question. Planning involves designing a solution method that meets the criteria of the problem, where students need to complete certain steps to create the actual answer. For this ability, teachers can set performance objectives such as having students create an outline before writing an essay and then write the essay based on the outline. In the teaching of the lesson "Congressional Bill Case Study," teachers can encourage students to immerse themselves in the historical context and write a critical article from the perspective of a patriot or a pro-British faction. The process of writing helps students better understand the impact of tax policies. Writing a critique requires students to analyze, evaluate, and create based on the existing materials, which deepens their understanding of the teaching content through complex cognitive processes and thinking activities.

4.2 Designing Performance Tasks Aligned with Students' High-level Thinking Skills

Based on a rich set of performance objectives, the design of performance tasks can be diversified. They can be short quiz-like tasks used to assess specific knowledge and skills, or they can be long and complex tasks used to evaluate broad knowledge, processes, and abilities. When designing performance tasks, teachers need to adhere to four principles: developmental, authentic, explicit, and process-oriented. To achieve the integration and intertwining of teaching, learning, and assessment through performance assessment, we need to focus not only on students' development but also on teachers' development, following the principle of mutual growth between teachers and students.

The principle of authenticity means that the context of task design should not only be new or unfamiliar to students but also be realistic, reflecting the problems faced by writers or literary critics. The principle of clarity is reflected in the high correlation between the assessment task and the assessment purpose, aiming to avoid the interference of "irrelevant goals". Additionally, clarity includes ensuring that the instructions for the task are clear, accurate, and easy to understand. The process-oriented principle emphasizes that teachers should not only evaluate the results of students' learning but also assess their learning process. Designing performance tasks poses a challenge for teachers, and good tasks should not be limited to the classroom. We should make the most of the resources around us to design performance tasks.

4.2.1 Selecting tasks to cultivate students' high-level thinking skills in analysis, evaluation, and creation

Commonly used performance assessment tasks include oral presentations, structured performance tasks, simulated performance tasks, creative works, experiments, and research projects. In order to develop students' high-level thinking skills, teachers should be adept at incorporating students' real-world experiences and contexts, helping them apply knowledge and skills acquired outside the classroom to their learning in the classroom. It is also important to encourage students to mix familiar and unfamiliar performance tasks, enabling them to better understand task instructions and increase their willingness to take on challenges. For example, in reading instruction, students can play the roles of characters in a story and analyze their psychological activities, or they can engage in group design projects during class time to develop their creative thinking abilities.

4.2.2 Designing an appropriate context for completing performance tasks

In designing performance tasks, it is important for teachers to consider the appropriate context that fosters the development of students' problem-solving strategies and engages their high-level thinking skills. Below is an example of a "three-day integrated" reading and writing performance task, illustrating the contextual design of performance tasks in Chinese language teaching.

In this task, students are required to read a short story and a non-fiction article with a single theme, and then integrate their acquired knowledge into a creative writing piece. The task is structured as follows:

Day 1: Before starting the reading activity, students are asked to write a short piece about their personal experience of cold. They then read a prepared article titled "Building a Fireplace," in which the protagonist dies from hypothermia. Students are subsequently required to answer a series of questions that evaluate their understanding of the story and their general reading abilities. These questions primarily assess their analytical skills in analyzing the article and questions.

Day 2: Students are tasked with writing a letter to the protagonist in "Building a Fireplace," providing advice on how to potentially save him. Following this, a classroom discussion takes place, and students prepare for the next excerpt related to low body temperature.

Day 3: Students need to integrate information from their readings and complete the following tasks: (1) Write a letter advising a group of friends on how to prepare for a winter adventure and how to survive; (2) Use a poem, a story, or a short play to describe their feelings in extreme cold, heat, hunger, or fatigue.

This event-based performance task focuses on developing students' analytical thinking, evaluative thinking, and creative thinking. For example, when writing a short essay about their experience of cold, students need to analyze and determine the criteria for defining cold. When answering a series of questions to evaluate their understanding of the story and their general reading abilities, students can exercise their ability to analyze problems. After completing the task, students' creative thinking is also exercised. It can be seen that designing feasible performance tasks and appropriate contexts not only

enhance students' core competencies but also change traditional approaches to Chinese language teaching, better stimulating students' interest in learning.

4.3 Developing performance assessment criteria to cultivate students' higher-order thinking skills

Designing clear and consistent assessment criteria is essential for performance assessment, and these criteria should be shared with students so that they understand how they will be evaluated, thus integrating their learning with teaching and assessment. In Chinese language teaching, to effectively improve students' analytical, evaluative, and creative thinking skills through performance assessment, teachers should consider the following three points when developing assessment criteria.

4.3.1 Clearly and explicitly communicate the assessment criteria to students

Traditional forms of assessment often lack detailed explanations of the expected performance from students. In such cases, students can only guess the intentions behind the assigned tasks and complete them tentatively. On the other hand, performance assessment clearly outlines the grading rules, helping students understand what is expected of them and how they will be evaluated. When using performance assessment criteria to guide Chinese language teaching in high school, teachers can include requirements for analysis, evaluation, and creativity in the criteria, helping students focus on important evaluation factors and components.

4.3.2 Teach students how to use the performance criteria

Teachers should not only make the performance criteria public but also teach students how to use them effectively. Here is an example of a successful case where the use of grading criteria enhances teaching. Before studying a specific unit, teachers can place a bulletin board in the classroom and lead a discussion with students about the main objectives of the upcoming unit. At the end of the unit, students are informed of the performance task they need to complete. The bulletin board should also display the grading criteria for evaluating students' final performance. These criteria should be developed through discussions between teachers and students. To help students understand different levels and goals in the grading criteria, teachers can collect typical examples of high-level and low-level work from previous students and display them on the bulletin board, showcasing clear and specific performance assessment criteria.

To develop students' higher-order thinking skills, teachers should emphasize the assessment criteria for analysis, evaluation, and creativity. For example, analysis can include the cognitive processes of distinguishing, organizing, and attributing. Teachers need to collect typical examples to illustrate what kind of performance represents a certain level of thinking for each process. By making the performance assessment criteria visible and tangible, teachers can truly facilitate students' learning.

4.3.3 Involve students in the development of the performance criteria

Performance criteria can come from three sources: adopting pre-existing criteria developed by others, adapting existing criteria based on specific circumstances, or developing criteria by themselves. To cultivate students' higher-order thinking skills, teachers should guide students in developing the criteria together. They can search for learning examples related to analysis, evaluation, and creativity and collectively distinguish between good and poor performance tasks. By identifying the key characteristics of good tasks and defining them, teachers and students can extract and refine applicable criteria. Involving students in the development of criteria helps them better understand the important factors of good performance. Students can then use this knowledge and experience to enhance their motivation and confidence in learning.

5. Conclusion

In summary, the application of performance assessment in high school Chinese language teaching has numerous advantages. This study has explored the application of performance assessment in Chinese language teaching and achieved certain results. However, there are still some issues that need further research and improvement in the future. Firstly, it is necessary to further clarify the relationship between performance assessment and higher-order thinking skills, and explore more effective quantitative evaluation indicators and methods. Secondly, it is important to investigate how to effectively integrate performance assessment into actual teaching to promote students' thinking development. Lastly, more empirical research is needed to validate the effectiveness of performance assessment in cultivating students' higher-order thinking skills in Chinese language. Through

continuous efforts and research, it is believed that we can provide more effective teaching methods and evaluation systems for cultivating students' higher-order thinking skills.

References

- [1] Ding Wenjing, Wei Dongyu.(2016). *On the meaning, characteristics and training strategies of Chinese core literacy -- Based on the analysis of research teaching mode theory [J]. modern Chinese*, (6): p.81
- [2] Zhao Fulou(2016). *Core literacy: the starting point and destination of modern Chinese reconstruction [J]. Journal of Tianjin Normal University*,(10):p. 27
- [3] Luo Xiaohui(2016). *Core literacy of Chinese and Chinese teaching [J]. Education Science Forum*, (20): pp.32-35
- [4] Zhong Qiquan(2016). *Curriculum development based on core literacy: challenges and topics [J]. global education outlook*, (1): p.5
- [5] L.w. Anderson(2007). *Taxonomy of learning, teaching and evaluation -- Bloom's taxonomy of educational goals revised edition [M]. Shanghai: East China Normal University Press*,p.75
- [6] Stiggins,r.j(1987).*designed development of performance assessment[J].educational measurement: issues and practice*,6 (6):pp.199-201.
- [7] Pophom w J(2003). *promoting classroom evaluation of teaching [M]. translated by the project team of "Evaluation Research on promoting teacher development and student growth" of national basic education curriculum reform. Beijing: China Light Industry Press*,p.137.
- [8] Hart, D(2004). *authenticity evaluation: teacher guidance manual [M]. translated by the project team of "Evaluation Research on promoting teacher development and student growth" in the national basic education curriculum reform. Beijing: China Light Industry Press*,p.4
- [9] Zhang Yongmei, Meng Qingmao(2003). *Assessment of academic achievement under the new curriculum: concepts and methods [J]. global education outlook*, (11):pp. 34-37
- [10] Tanaka, Kenji Matsushita, *the challenge of learning evaluation: the application of performance evaluation in schools [M]. translated by zhengguxin. Shanghai: East China Normal University Press*, 2015:63