**Authentic Assessment on Learning Skills of Undergraduates in a Public University in China**

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### Abstract

*Although the adoption of assessment methods is constantly undergoing reform, assessment practices seem to continue adopting a monolithic educational convention in China. The principal reason is that education in China is largely test-oriented, with standardized tests being the conventional means of measuring performance and learning outcomes. However, standardized tests do not enhance learning skills. Meanwhile, authentic assessment is rarely seen being used as an alternative assessment in the Chinese educational system despite its successful complementary role to conventional assessment in other educationally advanced countries. In addressing the limitations, the employment of authentic assessment is a possible option for engaging students in real-world practices and enhancing their learning abilities and skills, since it advocates independent exploration and collaborative problem-solving. The constructivist learning theory advocates the use of authentic assessments as it positively correlates with learning skills for cognitive flexibility. Thus, a study will be conducted in a Chinese university, aiming to investigate the effects of authentic assessment on the development of learning skills of communication, collaboration, creativity, and critical thinking among undergraduates and explore the challenges faced by teachers in adopting authentic assessment. The study would provide both administrators and teachers with new insights on how to effectively adopt authentic assessment in classroom instruction, enhance teachers' assessment literacy, and enrich teachers’ instruction-related knowledge and skills.*

**Keywords**: Authentic Assessment; Learning Skills; Assessment Literacy; Assessment Method; Constructivist Learning Theory

### 1 Introduction

There is strong theoretical and empirical support for the effectiveness of assessment in improving students' learning outcomes (Alonzo et al., 2021). Formal summative testing, commonly referred to as assessment of learning, is the standard method of assessment used in education and usually takes the form of a standardized test. Buckley (2021) highlighted that one of its shortcomings was that students' comprehensive talents were not differentiated. This assessment practice has been implemented conventionally for years in Chinese higher education institutes. Li (2022) noted that educational assessment in China was conceptually and practically synonymous with formal summative assessments. Shen (2022) explained that Chinese teachers relied on summative assessments when making educational decisions. Although summative assessments, in the form of standardized testing, are used as a good metric to measure improvement, it does not provide sufficiently meaningful measures of students’ progress and achievements, nor does it examine the levels of student learning skills.

Over the past two decades, most Chinese educators have been considering and practicing assessment for learning, which focuses on formative learning processes to be more concerned with college students' mastery of professional skills and their learning process rather than their learning outcomes (Gu & Li, 2020). Educators, moreover, are also accepting new conceptions of assessment and improving their assessment practices, including the implementation of authentic assessment. Authentic assessments have long been practiced and researched in some educationally advanced education. According to Sotiriadou et al. (2019), using authentic assessment was encouraged because it gave students the chance to consciously improve their problem-solving skills in real-world situations. According to Ajjawi et al. (2019), authentic assessment can foster students' capacity to apply knowledge, solve real-world problems, and make decisions—all of which contribute to the development of their metacognitive and cognitive abilities. Concerning how authentic assessment can be integrated with classroom instruction, Sylvia et al. (2021) reported in their research that authentic assessment tasks could be designed and incorporated into instruction to promote the development of 4C skills, providing students with opportunities to practice and enhance their learning abilities. For additional clarification, Lee (2021) said that in their learning process, students had a better chance to gain more confidence and maintain their motivation in learning especially when they were making efforts to complete authentic learning tasks.

With the development of globalization and the trend of internationalization of education, some Chinese educators have been introducing authentic assessment into the educational practice. However, it is important to note that many Chinese students and teachers are still accustomed to the conventional assessment methods due to the influence of Chinese traditional education culture and evaluation system. Therefore, the needs are apparent to gradually promote and popularize the concept and method of authentic assessment to facilitate the transformation of assessment methods. Chen et al. (2021) asserted that a study gap existed in China concerning the policy aim, interpretation, and implementation of assessment due to the uneven growth of education. Tan et al. (2021) stressed that assessment should cultivate learning skills which were inextricably linked to employability. An authentic assessment provides opportunities for students to apply knowledge in real-world contexts. Without it, students may struggle to develop practical skills relevant to their future careers. Authentic assessment methods often reveal a deeper understanding of students' knowledge and abilities. Without them, traditional assessments provide limited insights into students' learning skills. As a consequence, teachers may face challenges in motivating students, as authentic assessment tasks often tap into intrinsic motivation by connecting learning to real-world applications. Institutions help graduates to be adequately prepared for the demands and expectations of real-world workplaces with authentic assessment, which helps bridge the skills gap by aligning education with industry needs. Among different learning skills, researchers mostly focused on communication, collaboration, critical thinking, and creativity (Sambell & Sambell, 2019; Ridwan et al., 2020; Ramachandiran and Mahmud, 2018; Kurniawan et al., 2021; Asman et al., 2022). With these considerations as the rationale, this research will be conducted at a Chinese university. It aims to investigate the effects of authentic assessment on the development of communication, collaboration, creativity, and critical thinking skills among undergraduates. Additionally, the study seeks to explore the challenges teachers face in adopting authentic assessment.

Based on the facts, this study seeks to answer the following research questions:

RQ1: How does authentic assessment affect the learning skills among undergraduate students?

RQ2: What are the challenges faced by teachers in adopting authentic assessment?

* 1. **Research Problem**

The conventional pen-and-paper test in education is gradually transforming into a more comprehensive assessment method to assess students' learning outcomes and learning skills. Assessments are now becoming more diverse and the contents of the tests are more relevant to real-life needs and work needs. Real-life scenarios are included in the assessment. In both school education and social life, the demand for practical skills is being increasingly emphasized. This gradually increasing emphasis has led to an increase in related studies.

According to Quainoo (2021), limited research has been conducted on the effects of assessment on learning skills, especially in Chinese higher education institutions. He stressed that research in assessment should relate to how learners acquire and apply skills in their learning. It is also noted that the effectiveness of assessment on skill enhancement and how to effectively integrate assessment into skill development programs were insufficiently studied. Educational assessment in Chinese educational institutions of all levels has been extensively simple, monotonous, relatively high in consumption, and generally not satisfactory in its effectiveness. Despite constant adaptations to assessment methods, the practice continues to follow a monolithic educational convention, which is mainly due to the test-oriented nature of education. In addition, Chinese culture is characterized by conventionality and conservativeness which makes it challenging to initiate change in the assessment attitudes and practices of both teachers and students (Chen et al., 2021). The lack of diversity of assessments has led to the rigidity of education in China, especially in terms of the policy intent, interpretation, and implementation of assessment (Chen et al., 2021). Authentic formative assessment strategies, including feedback, self-assessment, peer assessment, and standards sharing, are not commonly employed across different levels of education. Instead, standardized tests are the conventional approach to measure learning outcomes, which appears to not aim for the application of knowledge and skills.

Chinese students are conventionally interdependent due to the societal norms of collectivism, and they are habitually dependent on their teachers in learning due to the test-oriented trend of educational practices. This dependency contrasts with the development of soft skills such as the ability of critical thinking, creativity, and independent problem-solving. Therefore, on the one hand, universities in China must enhance the development of undergraduates’ skills, which is crucial for their future academic and vocational development; on the other hand, universities in China need to improve their assessment system and integrate authentic assessment into the educational practice system. The cultivation of students' learning skills can be enhanced through the implementation of authentic assessment, an area that has received scant attention in China. For students, authentic assessment offers opportunities to apply knowledge in real-world contexts. Without it, students may struggle to develop practical skills relevant to their future careers. Authentic assessment often requires critical thinking and problem-solving skills. Without exposure to such assessments, students may lack opportunities to enhance these crucial cognitive abilities and foster their learning skills. Consequently, teachers may face challenges in motivating students, as authentic assessment tasks often tap into intrinsic motivation by connecting learning to real-world applications. Authentic assessment methods often reveal a deeper understanding of students' knowledge and abilities. Without them, teachers may rely on traditional assessments that provide limited insights into students' true comprehension. As institutions, they need authentic assessment to adequately prepare their students for the demands and expectations of real-world workplaces by fostering the learning skills of students and solving problems effectively with these skills. In summary, the absence of authentic assessment can hinder the holistic development of students, limit teachers' ability to gauge true understanding, affect institutional reputation, and raise concerns about the workforce's readiness, all of which have broader implications for societal and economic progress.

* 1. **Research Gaps**

Firstly, in the education context of China, assessment literacy is inadequate among teachers of all levels (Xu, 2017; Lan & Fan, 2019; Wang et al., 2020). The test-based education is at odds with the concept of student-centered teaching (Teng, 2018), and the teacher-centered approach appears to require teachers to help students pass tests. This pressure often deprives teachers of their desire and motivation to change their assessment tools. Another equally important reason is the lack of opportunities for teachers to participate in assessment-related workshops, symposia, training, etc. which makes teachers' assessment philosophy homogeneous and lacking in change (DeLuca, 2016).

Secondly, limited research has been conducted on the effects of assessment on students’ learning skills. While authentic assessment is widely implemented in educationally developed countries, there is scant research in China. Guo and Xu (2020) found that authentic formative assessment strategies, such as feedback, self-assessment, peer assessment, and criterion sharing, were not widely used in China. Bond et al. (2020) also stated that assessment studies were mostly conducted in Western countries. Further research is necessary to understand how authentic assessment can effectively enhance the cultivation of learning skills among students and whether it proves more effective than other forms of assessment. Therefore, there is a need to examine whether the use of authentic assessment in China's education system can effectively enhance students’ learning skills, such as critical thinking, problem-solving ability, and communication.

To address these gaps, the objectives of this study are: firstly, to examine the effects of authentic assessment on students’ learning skills; secondly, to explore the challenges faced by the teachers in adopting authentic assessment.

# 2 Literature Review

**2.1 Authentic Assessment**

Authentic assessment is a way of assessing students' performance in real-life situations and it requires students to demonstrate mastery of knowledge and application of skills through the completion of real-life tasks (Good, 2022). According to Ghosh et al. (2020), an assessment was authentic when the learning tasks, learning content, learning expectations, and methods of assessment were similar to those that were meaningful outside the classroom in the real world. Authentic assessment is a form of direct assessment. In other words, it provides explicit evidence of knowledge and skills (Gallardo, 2020), by distinguishing itself from conventional tests which only provide indirect data and require interpretation of the data. Authentic assessment, therefore, has the characteristics of performance assessment. Since it requires assessment to be part of the teaching and learning process, it is formative (Ghosh et al., 2020). Moreover, its emphasis on the contextualization of tasks sheds light on summative testing. In other words, authentic assessment not only represents a trend in assessment but also an effective integration of various types of assessment.

Considering that learning experiences were centering around assessment, Forsyth and Evans (2019) designed and implemented a series of authentic assessment tasks in the history class. The tasks included reproduction, an oral workshop, and a community-engaged project. Besides, students were required to complete conventional assessments. Forsyth and Evans (2019) used a survey of open-ended questions to collect data from the students and conducted a thematic analysis of student responses. Students reported that authentic assessment tasks were creative, insightful, etc. and they were using and enhancing their creative thinking skills when accomplishing the assessment tasks. The two researchers further proposed three main points for common discussion: first, effective assessment tasks should be diverse; second, assessment tasks should be consistent and closely linked to the learning content; and third, assessment tasks should be able to stimulate positive responses from students.

With authentic and effective assessment tasks, authentic assessment conducted in classroom teaching could be a catalyst for student learning. In general, the frequently used authentic assessment includes portfolios, performance tasks, graded assessment scales, learning journals, interviews, practical tasks, etc. (Ma, 2021). Kamalia Hakim and Srisudarso (2020) maintained that language teachers often employ authentic assessments, especially portfolios. From their research, they found that portfolios in language teaching had positive effects on both teachers and students in their learning process. They also noted that the variety of assessment tasks had a positive impact on the development of students' learning skills.

Nkhoma et al. (2020) proposed that the rubrics of authentic assessment included being realistic by replicating the real-world contexts; students being creative, critical, and innovative; improvement with practice and feedback; multiple evidence of student performance; a multifaceted and transparent scoring system; self-assessment; reliability of scoring; multiple solutions requirement; and active engagement of students. Ghose et al. (2020) stated that the rubrics played the role of an assessment tool that allowed students to measure their academic achievement and understand teacher feedback. He also maintained that although assessment rubrics were typically designed by teachers, students were increasingly involved in the process of constructing grading rubrics. Ghose et al. (2020) experimented with two formative authentic assessments using two case studies. Students were given feedback on their performance using an educator-constructed scoring rubric. Students were provided with the assessment rubrics before they were assessed. The results showed that a significant number of students used the feedback to improve their academic performance. They reported that their findings concurred with the findings of previous researchers (Villaroel et al., 2018) that transparency of assessment criteria was inevitable in authentic assessment.

**2.2 Learning Skills**

The term "learning skills" refers to learners' competencies that facilitate the learning process and contribute to learning outcomes. Stauffer (2022) stated that students needed to possess twelve abilities to be able to learn and work successfully in the future society. She termed the abilities as 21st-century learning skills, among which, communication, collaboration, critical thinking, and creativity are usually combined for consideration and are known as the 4Cs skills since these four skills are considered interrelated (Mulders, 2022) and crucial for personal development (Sullivan et al., 2019).

Supena et al. (2021) conducted quasi-experimental research in a university to examine if the 4Cs-based learning model had an impact on students' learning outcomes. The experiment provided quantitative data using tests of multiple choice and essay, observations, and documentation. The results of the experiment showed that the 4Cs-based model was of significance to student learning outcomes in cognition, psychomotor, and affection. They thus recommended that the 4Cs-based learning model be implemented in the teaching process to improve student learning outcomes and learning skills. More specifically, Pardede (2020) conducted an extensive literature review of current papers and studies on learning skills. They found that the cultivation and enhancement of learning skills could serve as essential instructional guidance. This instructional guide included the following details concerning the learning skills: (1) The skill of communication is extensively considered the most important skill for students while the definition of communication is continuously extending with the development of technology. (2) Communication skills can be linked to learning through a student-centered approach. (3) Collaboration is a generally adopted technique for both teaching and learning and purposeful engagement needs to accompany collaboration in learning. (4) Collaboration is especially effective when cooperative learning or project-based learning is implemented. (5) The learning skill of critical thinking involves multidimensional cognitive ability, which results in different understandings and interpretations. Therefore, critical thinking is a complex learning skill. (6) The definition of creation as a learning skill is not fixed since different researchers have different focuses. Creative thinking is compatible with constructivist theory. Moreover, from a constructivist perspective, novelty and validity make creativity an important factor in the learning process. The conclusion made after the literature review is that teachers should select teaching materials and methods to involve the four learning skills in the teaching process.

Compared with the aforementioned literature which focuses on analyzing the importance of learning skills, Erdoğan (2019) analyzed how learning skills could be interconnected. Well-designed learning activity was the primary choice he made to integrate learning skills cultivation into language teaching since, as Halvorsen (2018) stated, students could conduct basic activities to learn regardless of their learning ability and outcome. Supported by literature review and exploration, some guidelines for learning activities are recommended, including communicating with up-to-date technological tools to develop communicative skills, writing and discussing given topics and analyzing personal contributions in teamwork to develop collaborative skills, posing open-ended questions and problem-based learning tasks to develop creativity, and assigning more speaking activities such as debate to develop critical thinking skill. The research finding is that authentic experiences in learning tasks help students develop learning skills.

**2.3 Authentic Assessment and Learning Skills**

Sukma et al. (2021) used library research as a research method to provide a retrospective analysis of journal articles on the topic of authentic assessment in language learning courses from 2009-2021. He studied numerous literature and reached the main conclusion that teaching should be student-centered, scientific methods should be used, authentic assessments should be conducted, and students' overall learning outcomes should be accurately evaluated. Some other noteworthy findings include that teachers had inadequate assessment literacy, and performance and portfolio assessments were the most commonly used means of authentic assessment.

Similar findings have been witnessed in more literature. Furthermore, some researchers have also studied the connection between assessment and learning skills. Ramachandran and Mahmud (2018) conducted research among undergraduates in a Malaysian university, aiming to evaluate the four learning skills when technology tools were incorporated into the teaching and learning process which required the users' abilities of creation and collaboration. They designed an assessment to evaluate the student’s competency in learning skills. They concluded that effective assessment and well-designed learning activities were supposed to lead to the enhancement of learning skills. This research provided a reference for teaching and learning activities and assessments that could be drawn upon by teachers and researchers. Furthermore, it provided empirical evidence that it is achievable to develop learning skills among students through assessment. This observation holds significant guidance for research, suggesting that authentic assessment tasks are essential in instruction to cultivate students' learning skills. Consequently, measurements aligned with authentic assessment tasks are indispensable, highlighting the crucial role of authentic assessment rubrics.

Mauludi's (2022) research centered on performance-based assessment and involved gathering qualitative data through in-depth interviews with EFL majors at a university. The teaching process at the university followed a framework that encompassed various methods, including student design, presentation, question and answer sessions, and teacher assessment. Throughout the learning process, students were required to utilize their communication and problem-solving skills. The performance-based assessment in this study required students to work with their skills to achieve their desired outcome. It was reported that the assessment had a catalytic effect on learning skills. On the other hand, Maryuningsih et al. (2020) developed a performance-assessing instrument using the ADDIE model (consisting of five phases: analysis, design, development, implementation, and evaluation) to assess students' performance in online learning activities. The students were assessed in four learning tasks on their adopted methods in completing the tasks. These assessing instruments effectively measured the learning skills the students adopted in conducting the learning activities, and they had some positive impact on skill development. Referring to these two research studies, the importance of authentic assessment tasks and rubrics was reinforced, while also shedding light on the consideration of authentic assessment methods as integral components. These methods, integrated with tasks and rubrics, serve to promote learning skills.

Sokhanvar et al. (2021) systematically reviewed the literature on the potential effect of authentic assessment. The review suggested that authentic assessment increased student engagement in learning, and developed students' learning skills such as communication, collaboration, critical thinking, and problem-solving skills, as well as self-awareness and self-confidence. Duda et al. (2019) conducted quasi-experimental research with non-equivalent groups and pre-and post-test methods. It was aimed at exploring the effects of utilizing authentic assessment to reduce memorization work in problem-based learning (PBL). They found that the combination of the PBL model and authentic assessment has the most significant impact on students' learning skills development. This finding further points out that the project could be integrated into an authentic assessment task design. Jopp (2019) asserted that authentic assessment in higher education could help meet the employability needs of students and the academic requirements of students. He further stated that authentic assessment had the potential to enhance student learning skills, deepen their levels of understanding, improve their creativity, and reduce plagiarism in the learning process, which further contributes to fostering employability skills. It’s seen from his research finding that there is an unbreakable promotional relationship between authentic assessment and learning skills.

# 3 Underpinning Theories

The four learning skills are underpinned by constructivist learning theory. In constructivism, learning is seen as a social process where learners actively construct knowledge through interactions with others. Communication is a fundamental aspect of this process, as learners engage in discussions, share ideas, and negotiate meanings with peers and teachers. Collaboration is a central tenet of constructivism, emphasizing the importance of social interaction and cooperation in the learning process. Critical thinking is essential in fostering higher-order thinking skills. What’s more, learners are seen as active creators of knowledge rather than passive recipients. Therefore, the uniqueness of each learner's perspective and creative thinking are recognized and encouraged by constructivism. These learning skills are often examined within the theoretical framework of constructivism.

**3.1 Piaget's Cognitive Constructivism**

Piaget's cognitive constructivism has had a significant impact on authentic assessment, particularly on the classification of knowledge and cognition levels, active learning, and authentic learning. His theory emphasizes that students construct their understanding of the world through their experiences and exploration of their environment. He argued that students progress through stages of cognitive development, each characterized by different ways of thinking. This idea of classification of knowledge and cognition level has influenced authentic assessment by emphasizing the importance of assessing learners' thinking processes and understanding of concepts, rather than just their ability to memorize and recall information. Authentic assessment is designed to assess learners' ability to apply their knowledge and skills in real-world contexts. Piaget emphasized active learning, where learners are actively engaged in the learning process and encouraged to make connections between new knowledge and their existing understanding. It provides learners with opportunities to engage in active learning by presenting them with real-world problems or scenarios that require them to apply their knowledge and skills. Moreover, Piaget's theory emphasizes the importance of authentic learning, where learners are engaged in tasks that are relevant to their lives and reflect real-world situations. This is reflected in authentic assessment designed to assess learners' ability to apply their knowledge and skills in real-world contexts.

**3.2 Vygotsky's Social Constructivism**

Vygotsky's social constructivism provides theoretical support for learning skills development. According to Vygotsky, learning was a social process that occurred through interactions with others. Students develop their cognitive abilities through social interactions, particularly through scaffolding. Scaffolding involves providing learners with support and guidance as they work on tasks that are initially beyond their abilities. This support is gradually removed as learners become more competent, enabling them to work independently. This idea of scaffolding has influenced the development of students’ learning skills by emphasizing the importance of providing students with appropriate levels of support and guidance as they develop their skills. This includes providing students with feedback, modeling, and other forms of support that enable them to explore and further develop their skills. Another key idea in Vygotsky's theory is collaborative learning, with which students are encouraged to construct new knowledge through their interactions with their peers or more knowledgeable others like teachers and parents. This approach to learning is particularly well-suited to developing learning skills, as it encourages learners to actively engage with the materials and develop their social interaction. The zone of proximal development (ZPD) is a key concept in Vygotsky's theory, referring to the gap between what learners can do independently and what they can do with support. Learners can only develop new skills, knowledge, and cognition within this zone, which emphasizes the importance of providing support and guidance to enable learners to move beyond their current level of competence.

**3.3 Application of Constructivism Theory**

Ayyoub et al. (2021) applied the constructivism theory as the learning theory to guide the exploration of the impact of alternative assessment on learning outcomes in Palestinian fourth-grade classrooms. They designed learning activities that encouraged active learning, spontaneous exploration, and communication-based on several theoretical points of constructivism and used self-assessment, peer assessment, and teacher assessment to measure the extent of student’s development of learning skills. They found that alternative authentic assessment methods had a positive impact on students' learning and application of knowledge. Implications for integrating authentic assessment measures were drawn considering the prospect of increasing student motivation and developing critical lifelong skills.

Ozan and Ceyhun (2019) also adopted constructivist learning theory as a theoretical basis to examine the impact of authenticity assessment on pre-service teachers' attitudes toward academic achievement and study skills, as well as their perceptions of authenticity assessment. students were required to complete authentic tasks and to engage in alternative assessment practices. The results of the study indicated that authentic assessments significantly improved the participants' learning outcomes and attitudes toward learning skills.

The theoretical points of constructivist learning theory are consistent with the rationale for the development of learning skills and the implementation of alternative assessment and thus can provide theoretical support for this study. Concepts such as the approach to knowledge construction involved in constructivist learning theory can both guide teaching practice and rationalize the basis for assessment. Through a review and discussion of the aforementioned theories and previous research practices, the rationale and implications for conducting this study become relatively clear.

### 4 Discussion

The preceding sections have established the context for this research, providing an overview of the theoretical foundations, literature review, and research problem. This discussion section will delve into the implications of the research findings, address the research questions, and explore the broader significance of the study.

## 4.1 Addressing Research Questions

The literature review extensively discussed the positive impact of authentic assessment on learning skills. Authentic assessment, rooted in constructivist learning theories such as Piaget's cognitive constructivism and Vygotsky's social constructivism, aligns with the principles of active learning, collaboration, and real-world application. The findings from studies like Ayyoub et al. (2021) and Ozan and Ceyhun (2019) suggest that alternative assessment methods, which include authentic tasks, promote the development of learning skills such as communication, collaboration, critical thinking, and creativity among students.

In the context of Chinese higher education, where traditional assessment methods are deeply entrenched, authentic assessment poses challenges and opportunities. The shift from a test-oriented approach to a more student-centered, authentic assessment method can foster a deeper understanding of the subject matter and enhance practical skills. This aligns with the argument made by Tan et al. (2021) that assessment should cultivate learning skills linked to employability.

The literature review highlighted several challenges in adopting authentic assessment in the Chinese educational context. Firstly, there is a lack of assessment literacy among teachers (Xu, 2017; Lan & Fan, 2019; Wang et al., 2020), which hinders the transition from traditional to authentic assessment. The pressure on teachers to help students pass tests and the absence of opportunities for professional development contribute to the resistance to change (DeLuca, 2016). Secondly, the research gaps identified the need for more studies on the effects of assessment on learning skills, especially in Chinese higher education. The dominance of standardized tests and the limited use of authentic formative assessment strategies hinder the exploration of innovative assessment methods that could effectively enhance learning skills. This study aims to integrate authentic assessment with classroom instruction to examine the effectiveness of and verify the findings from the literature by answering research questions.

## 4.2 Bridging the Gaps

To address the identified research gaps, this study aims to explore the effects of authentic assessment on the development of learning skills among Chinese undergraduates and investigate the challenges teachers face in adopting authentic assessment. By conducting empirical research in a Chinese university setting, the study seeks to contribute to the existing body of knowledge on this topic. A proposed framework is constructed to guide the implementation of this study. Figure 1 displays the framework.



**Figure 1.** Proposed Framework

4.3 Theoretical Implications

The theoretical framework of constructivism, particularly Piaget's cognitive constructivism and Vygotsky's social constructivism, provides a solid foundation for understanding the relationship between authentic assessment and learning skills. The application of these theories in previous research, as discussed in the literature review, supports the argument that authentic assessment aligns with the principles of active learning and social interaction, contributing to the development of learning skills.

4.4 Practical Implications

The findings of this research can have practical implications for educators and policymakers in China. Understanding the impact of authentic assessment on learning skills can inform curriculum design, teacher training programs, and educational policies. It may also provide insights into strategies for overcoming the challenges faced by teachers in adopting authentic assessment methods.

### 5 Conclusion

Authentic assessment evaluates students' ability to apply the knowledge and skills they have learned in a real-world context. It encourages students to think critically, solve problems, and demonstrate their understanding in authentic situations. The learning skill cultivation promotes the development of these skills in the student's learning process. Authentic assessment can be a valuable tool for evaluating student progress in these areas, as it encourages them to apply their skills in real-world contexts where the learning skills are necessary. Since mainstream educational assessment in China is a single-mode summative assessment, it is worthwhile to explore the implementation of authentic assessment in education and explore its effects on educational practice. By integrating theoretical frameworks, empirical evidence, and practical implications, this study aims to provide a comprehensive understanding of the role of authentic assessment in fostering learning skills in the Chinese higher education context.

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