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Teacher Perceptions of the Challenges in Implementing Student-Centered Learning Curriculum Reform in China's Higher Vocational Colleges

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Abstract

This qualitative case study examines how vocational teachers in Shandong Province, China, perceive student-centered learning (SCL) curriculum reform. Guided by an integrated theoretical framework combining Fullan's Theory of Educational Change, the Concerns-Based Adoption Model (CBAM), and Rogan and Grayson's Curriculum Implementation Framework, the study adopts a descriptive case study design. Data were collected through semi-structured interviews with 13 full-time engineering instructors across four higher vocational colleges and analyzed using Braun and Clarke's six-phase thematic analysis framework. The findings reveal that institutional, pedagogical, and psychological barriers severely hinder smooth SCL implementation. Specifically, rigid institutional accountability mechanisms, intensive KPI pressures centered on graduate employment rates and skills competition outcomes, and a critical shortage of flexible physical resources for large classes create major structural obstacles. Furthermore, persistent teacher anxiety regarding role transition coexists with deeply ingrained, passive student learning habits shaped by years of exam-oriented schooling. The study highlights that classroom bottlenecks stem from systemic contradictions rather than individual technical flaws, leading to a profound policy-practice misalignment where traditional lecture-based methods continue to dominate despite progressive reform mandates. Based on these insights, this study provides actionable recommendations for policymakers and college administrators to restructure institutional evaluation frameworks, optimize resource distribution, and offer targeted discipline-specific professional training to bridge the persistent policy-practice chasm in vocational education.

Keywords: Higher Vocational Education, Student-Centered Learning, Curriculum Reform, Teacher Perceptions, Implementation Challenges

Introduction

Student-centered learning (SCL) has become increasingly prominent in contemporary education as an approach that encourages students to participate actively in the learning process. Unlike conventional teacher-centered instruction, SCL emphasizes discussion, collaboration, problem solving, inquiry, and reflection. Such learning experiences are widely associated with the development of critical thinking, communication, independent learning, and workplace-relevant competencies (Organisation for Economic Co-operation and Development [OECD], 2023; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2022).

In China, vocational education reform has increasingly emphasized competency development, classroom participation, and stronger alignment between education and national development needs. The revised Vocational Education Law of 2022 encouraged vocational institutions to improve teaching quality, strengthen practical learning, and explore more flexible teaching methods. Following these legislative developments, vocational education has been increasingly positioned as a key mechanism for national development and global benchmarking (General Office of the State Council, 2022; Yu et al., 2024). These reforms have increased expectations for vocational teachers to integrate more student-centered practices into classroom teaching.

However, the implementation of SCL remains complex. Previous studies have reported that teachers face multiple challenges when adopting student-centered approaches, including limited time, insufficient resources, students' unfamiliarity with active learning, and lack of professional collaboration (Ramadhan, 2025). In higher vocational colleges, these challenges may be intensified by institutional accountability systems, industry-oriented training demands, and large-class teaching conditions. In Shandong Province, where higher vocational colleges are actively involved in national and provincial reform initiatives, teachers are expected to respond to policy requirements while managing the realities of institutional assessment, classroom constraints, and diverse student learning needs (Ministry of Education of China, 2021).

The present study is guided by three complementary theoretical perspectives, as illustrated in Figure 1. First, Fullan's Theory of Educational Change emphasizes that meaningful reform requires changes in instructional materials, teaching approaches, and teachers' underlying beliefs (Fullan, 2020). If these dimensions are misaligned, reform may result in superficial compliance rather than genuine classroom transformation. Second, the Concerns-Based Adoption Model (CBAM) views curriculum implementation as a developmental process in which teachers experience personal, task-related, and impact-oriented concerns during reform adoption (Hall & Hord, 2006). This framework is useful for understanding teachers' emotional and professional responses to SCL implementation. Third, Rogan and Grayson's Curriculum Implementation Framework highlights the importance of institutional capacity, resource availability, and local contextual realities in determining the feasibility of curriculum change (Rogan & Grayson, 2003).

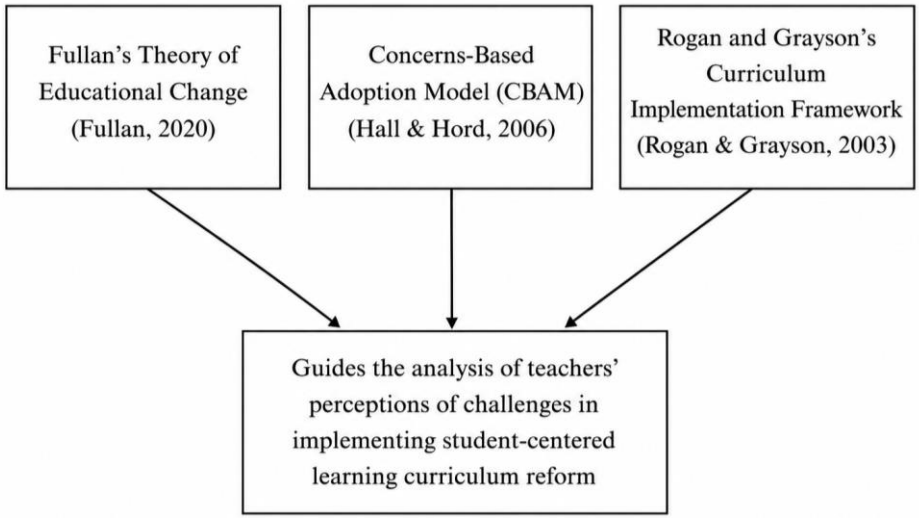

Figure 1. Theoretical framework of the Study

Existing literature suggests that institutional accountability in Chinese vocational education may create tension between reform ideals and classroom practice. Performance-driven systems often emphasize measurable indicators such as graduate employment rates, skills competition outcomes, inspection results, and institutional rankings (Huang et al., 2025). Such indicators may discourage risk-taking and reduce teachers' willingness to implement less predictable student-centered activities. In this context, teachers may continue to rely on lecture-based methods because these approaches appear more efficient, controllable, and aligned with performance expectations (Guan & Liu, 2025).

In addition to institutional pressures, physical and digital learning environments also influence SCL implementation. Effective student-centered instruction requires flexible classroom layouts, updated equipment, sufficient laboratory access, and appropriate technological infrastructure. Teachers' professional identity and readiness are equally important. The transition from knowledge transmitter to learning facilitator requires teachers to reconsider their roles, authority, and classroom management practices (Bükki & Fehérvári, 2024; Keller & Raemy, 2025). For vocational teachers who possess strong technical expertise but limited formal training in student-led pedagogy, this transition may be particularly demanding.

Student-related factors also shape the implementation of SCL. Learners who have experienced years of exam-oriented education may be accustomed to teacher direction, standardized answers, and passive learning routines (Bremner, 2021). In East Asian educational contexts, students may also avoid open disagreement or active questioning due to concerns about social harmony and embarrassment (Chan & Smith, 2024). These patterns can limit the effectiveness of collaborative learning, inquiry-based tasks, and classroom discussion.

Although previous studies have examined SCL implementation and vocational education reform, there remains limited qualitative research that simultaneously considers institutional, pedagogical, psychological, and student-related challenges within the specific context of higher vocational colleges in Shandong Province. Therefore, this study aims to explore teachers' perceptions of the challenges encountered in implementing SCL curriculum reform

and to identify the forms of support teachers perceive as necessary for effective implementation.

The study was guided by the following research questions:

1. How do teachers in China's higher vocational colleges perceive the challenges of implementing student-centered learning curriculum reform?
2. What forms of support do teachers in China's higher vocational colleges perceive as necessary for successfully implementing student-centered learning curriculum reform?

Methods

This study employed a qualitative descriptive case study design. This design was appropriate because the study aimed to explore teachers' perceptions, experiences, and challenges in implementing SCL curriculum reform within their actual institutional and classroom contexts. The case examined in this study was the implementation of SCL curriculum reform in higher vocational colleges in Shandong Province, China.

The population of this study comprised full-time teachers in higher vocational colleges in Shandong Province, China. According to the Shandong Provincial Department of Education (2025), the province has more than 80 independent higher vocational colleges and more than 45,000 full-time educators. A total of 13 teachers from four higher vocational colleges were selected using purposive criterion sampling. The inclusion criteria required participants to be full-time vocational teachers, have at least five years of teaching experience, and be directly involved in SCL curriculum reform. The final sample size was determined based on data saturation, which was reached after 13 interviews. Participants' teaching experience ranged from 5 to 19 years, and their academic ranks ranged from Lecturer to Professor.

Table 1
Participant and Institutional Profiles

Participant ID	Gender	Teaching Exp. (Years)	Academic Rank	Disciplinary Sector	Institution Code
T01	Female	17	Professor	Technical-Engineering	College-A
T02	Female	19	Professor	Technical-Engineering	College-A
T03	Female	7	Lecturer	Technical-Engineering	College-A
T04	Male	8	Lecturer	Technical-Engineering	College-A
T05	Male	12	Associate Professor	Technical-Engineering	College-A
T06	Female	6	Lecturer	Technical-Engineering	College-B
T07	Female	7	Lecturer	Technical-Engineering	College-B
T08	Male	10	Lecturer	Technical-Engineering	College-B
T09	Male	8	Lecturer	Technical-Engineering	College-C

T10	Male	13	Associate Professor	Technical-Engineering	College-C
T11	Female	5	Lecturer	Technical-Engineering	College-C
T12	Male	7	Lecturer	Technical-Engineering	College-D
T13	Female	6	Lecturer	Technical-Engineering	College-D

Data were collected using a semi-structured interview protocol developed based on the research objectives, research questions, and conceptual framework of the study. The protocol consisted of 19 questions across five sections: participant background, understanding of SCL, implementation experiences, challenges encountered, and support needed. The interview protocol was reviewed by two senior lecturers from Sultan Idris Education University (UPSI) to establish content validity. Suggestions from the experts were used to refine the wording, sequence, and clarity of the interview questions.

All interviews were conducted in Mandarin Chinese to allow participants to express their experiences and perceptions in a familiar language. The interviews were audio-recorded with participants' consent and transcribed verbatim. The transcripts were checked for accuracy before being translated into English for analysis and reporting.

The data were analyzed using Braun and Clarke's six-phase thematic analysis as shown in Figure 2. The six phases were: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and writing the report. To strengthen the trustworthiness of the analysis, dual coding was conducted, and coding differences were discussed until agreement was reached. Member checking was also performed by returning the developed themes to participants for verification.

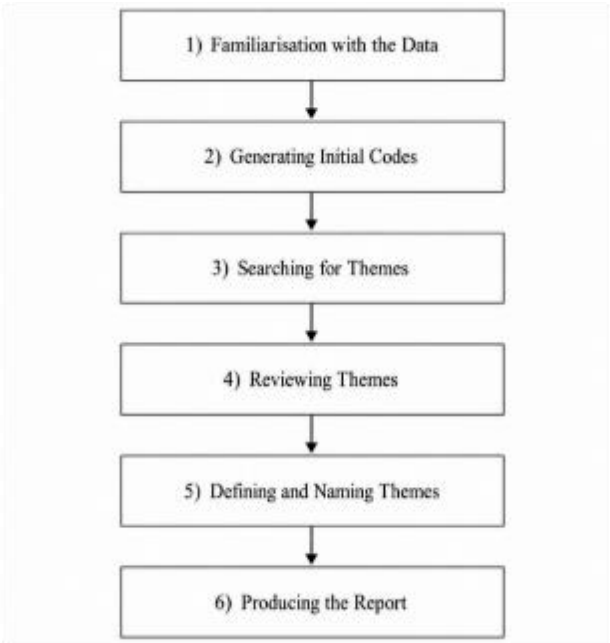

Figure 2. Braun and Clarke's Six-Phase Thematic Analysis

This study adhered to the ethical requirements of Sultan Idris Education University (UPSI). Participants provided written or digital informed consent before participating in the study. Anonymity was ensured by using participant codes from T01 to T13 instead of real names. All interview data were stored in password-protected files accessible only to the researcher and are to be permanently deleted after the university-mandated retention period.

Results

The thematic analysis revealed four major themes related to teachers perceived challenges in implementing SCL curriculum reform: institutional pressure and performance accountability, limited resources and teaching facilities, teachers' readiness and changing teaching roles, and student-related challenges. The analysis also identified four corresponding areas of support needed: institutional and administrative support, improvement of resources and learning environments, professional training and pedagogical support, and reform of assessment and evaluation practices.

Table 2
Summary of Themes

Theme	Main Issues
Institutional Pressure and Performance Accountability	KPI, inspections, teaching competitions
Limited Resources and Teaching Facilities	Equipment, laboratories, classroom layout
Teachers' Readiness and Changing Teaching Roles	Identity shift, professional learning
Student-Related Challenges	Passive learning, unequal participation

Theme 1: Institutional Pressure and Performance Accountability

As presented in the findings, participants consistently reported that higher vocational colleges in China operate within highly competitive and performance-driven accountability systems. Institutional expectations associated with the "Double High Plan", teaching competitions, graduate employment rates, and classroom inspections created considerable pressure on teachers to demonstrate measurable outcomes while simultaneously implementing student-centered learning (SCL). Participants explained that these competing expectations often discouraged instructional innovation and encouraged more predictable teaching approaches.

Participant T02 described how the reform pressure had become embedded in everyday teaching practice: "The school regularly conducts instructional inspections and open-class evaluations, alongside an annual competition to assess teachers' instructional proficiency against established standards. All specialized courses are required to incorporate student-led independent learning and project-based teaching models. In daily practice, lesson preparation goes beyond merely readying slides and key concepts; it entails designing interactive classroom tasks and group-based practical exercises, as well as monitoring students' independent learning progress after class." (T02)

Similarly, Participant T04 highlighted the influence of institutional performance indicators: "Skills competitions and employment rates loom over us like two massive mountains. Speaking candidly, having been responsible for these competitions for years. I

must admit that during the preparation period, the average students in large classes are neglected. For one or two consecutive weeks, these students have no access to the best instructors or the best machine tools; consequently, the concept of Student-Centered Learning (SCL) in these large classes becomes nothing more than empty talk." (T04)

These findings indicate that teachers experienced continuous tension between complying with institutional accountability requirements and implementing authentic student-centered learning practices.

Theme 2: Limited Resources and Teaching Facilities

Participants consistently identified resource limitations as major barriers to effective SCL implementation. Although many institutions had invested in modern facilities, teachers believed that the learning environment often failed to support authentic collaborative and project-based learning. Challenges included inflexible classroom layouts, outdated equipment, limited access to laboratories, and insufficient technological infrastructure.

Participant T06 explained how classroom organization reduced instructional efficiency: *"Every lesson begins with moving furniture and reorganizing the classroom. Sometimes nearly fifteen minutes are spent preparing the learning environment before students can even start the activity."* (T06)

Participant T09 emphasized that outdated equipment created an even greater obstacle: *"The school's equipment is always several years behind industry practice. Students may discuss solutions actively in class, but once they enter a real company, many of the technologies they learned are already outdated."* (T09)

These accounts suggest that physical infrastructure alone is insufficient unless learning environments also reflect current industrial practices and provide flexible opportunities for collaborative learning.

Theme 3: Teachers' Readiness and Changing Teaching Roles

The findings revealed that teachers experienced considerable uncertainty while transitioning from traditional knowledge transmitters to learning facilitators. Participants acknowledged the educational value of SCL but reported feeling professionally vulnerable when classroom activities became less predictable and students exercised greater autonomy.

Participant T12 similarly explained: *"The teacher is no longer the only source of knowledge but becomes an organizer and facilitator. However, students' different learning abilities make it difficult to manage group learning effectively."* (T12)

Participants also reported that existing professional development programmed were often disconnected from classroom realities.

As Participant T11 commented: *"Most training consists of theoretical lectures or online courses that have almost no practical value. What we really need are workshop-based sessions where experienced teachers demonstrate how to facilitate discussions, assess group work, and manage collaborative learning in real classrooms."* (T11)

These findings suggest that teachers require not only conceptual understanding of SCL but also sustained pedagogical support and practical training to facilitate successful role transformation.

Theme 4: Student-Related Challenges

Independent sample analyses of participant narratives revealed that students' prior exam-oriented learning habits significantly constrained the implementation of student-centered learning (SCL). Participants consistently reported that many students remained dependent on teacher guidance, demonstrated limited motivation for self-directed learning, and participated passively in collaborative activities, thereby reducing the effectiveness of SCL.

Participant T03 highlighted that insufficient learning motivation was one of the most persistent obstacles to SCL implementation:

"Many students are unwilling to participate actively and show little initiative in classroom learning. Some students are even reluctant to attend classes, while others who are absent because of skills competitions miss important learning activities, making it even more difficult to engage them in student-centered classroom tasks." (T03)

Similarly, Participant T02 observed that students' unequal participation frequently undermined collaborative learning:

"When programming projects are carried out in groups, highly motivated students actively explore solutions, whereas others rely heavily on their teammates to complete the work. It is common that one student writes all the code while the other four simply copy the work and prepare the presentation. Genuine collaboration is often replaced by unequal participation." (T02)

Participant T13 further emphasized that students' lack of self-regulation reduced the effectiveness of independent learning:

"During practical sessions in the computer lab, the moment I turned away to assist another group, they would switch to watching videos or even playing online browser games, completely neglecting the work they were supposed to be doing. Due to a lack of self-discipline, it is quite challenging to maintain effective, student-centered learning activities." (T13)

Participants linked these behavioral patterns to deeply rooted learning habits developed through years of teacher-directed and examination-oriented education. Collectively, the findings suggest that meaningful changes in students' learning behaviors are unlikely to occur within a single semester and instead require sustained institutional support together with continuous exposure to learner-centered pedagogical practices.

Discussion

The findings indicate that SCL reform in China's higher vocational colleges is shaped by a complex interaction of institutional, environmental, pedagogical, and student-related factors. Rather than viewing implementation challenges as individual teacher weaknesses, the findings suggest that SCL reform is constrained by a broader policy-practice misalignment. Although national policies promote student participation, competency development, and

pedagogical innovation, local institutional evaluation systems continue to prioritize measurable performance indicators such as graduate employment rates, skills competition results, teaching inspections, and institutional rankings.

This finding is consistent with Fullan's (2020) view that educational change requires alignment among new instructional materials, teaching approaches, and teachers' beliefs. In the present study, teachers were encouraged to adopt student-centered practices, but institutional accountability structures continued to reward predictable and measurable outcomes. As a result, teachers were placed in a contradictory position: they were expected to innovate pedagogically while also protecting institutional performance results. This explains why traditional lecture-based instruction remained attractive despite reform mandates.

The findings also align with Rogan and Grayson's (2003) argument that curriculum innovation must be understood in relation to the school's actual capacity for implementation. Participants reported that classroom layouts, outdated equipment, limited laboratory access, and insufficient technological infrastructure reduced the feasibility of SCL. These findings suggest that reform expectations may exceed the operational capacity of some higher vocational colleges. Even when institutions possess modern facilities, these facilities may not necessarily support collaborative, flexible, or industry-relevant learning.

From the perspective of CBAM, the study also shows that teachers' concerns were not limited to technical knowledge. Teachers experienced anxiety, uncertainty, and professional vulnerability as they attempted to shift from knowledge transmitters to learning facilitators. This finding reflects Hall and Hord's (2006) view that reform implementation involves personal and task-related concerns before teachers can fully focus on student impact. In this study, teachers required practical guidance on how to manage collaborative learning, assess group work, facilitate student discussion, and maintain classroom order during student-led tasks.

Student-related challenges further complicated the implementation of SCL. Participants reported that many students were accustomed to passive learning, relied heavily on teacher guidance, and lacked self-regulation. These findings are consistent with Bremner's (2021) argument that student-centered learning must be understood flexibly across contexts, particularly when students have been socialized into examination-oriented learning environments. In such contexts, SCL cannot be implemented simply by changing classroom activities. Students also require gradual preparation, explicit learning strategies, and continuous support to develop the confidence and responsibility needed for active learning.

Implications

The findings offer several implications for policymakers, college administrators, and teacher educators. First, institutional evaluation systems should be reviewed to ensure that they support rather than discourage SCL implementation. If teachers are evaluated mainly through short-term measurable outcomes, they may avoid pedagogical experimentation. Evaluation frameworks should therefore include indicators related to classroom innovation, student engagement, collaborative learning, and long-term competency development.

Second, resource allocation should move beyond symbolic investment in modern facilities. Colleges need flexible classroom spaces, updated industry-relevant equipment, accessible laboratories, and reliable technological infrastructure. These resources are especially important in engineering and technical programs where student-centered activities often require hands-on practice and authentic problem-solving tasks.

Third, professional development should be more practical, sustained, and discipline-specific. Teachers in this study did not reject SCL, but they required concrete support in implementing it. Training should therefore include classroom demonstrations, peer observation, mentoring, workshop-based practice, and examples from teachers in similar vocational disciplines.

Fourth, students should be gradually prepared for SCL. Teachers and administrators need to recognize that passive learning habits are deeply rooted and cannot be changed immediately. Students may benefit from explicit guidance on group roles, self-directed learning strategies, peer collaboration, and reflective learning.

Limitations and Future Studies

This study has several limitations. First, data collection relied solely on semi-structured interviews, without classroom observations to verify reported practices. Second, as with most qualitative research, data interpretation may be influenced by the researcher's perspectives and prior experiences. Third, all participants were engineering and technology teachers from higher vocational colleges in Shandong Province, which limits transferability to other disciplines and regions. Fourth, the data were collected during the early stages of curriculum reform following the 2022 Vocational Education Law, and teachers' experiences may evolve as reform policies become more established.

Future studies should consider mixed-methods designs to capture both quantitative trends and qualitative depth. Larger, multi-disciplinary, and multi-regional samples would strengthen transferability. Including student participants and classroom observations would provide a more holistic and triangulated account of SCL reform enactment. Comparisons between public and private institutions and across different provinces would also help distinguish locally specific challenges from broader national patterns.

Conclusion

This study explored teachers' perceptions of the challenges of implementing SCL curriculum reform in China's higher vocational colleges. The findings revealed that implementation was constrained by institutional pressure and performance accountability, limited resources and teaching facilities, teachers' readiness and changing teaching roles, and student-related challenges. These challenges were interconnected and reflected a broader policy-practice misalignment in vocational education reform. In response to the first research question, the study identified these four interrelated categories as the main challenges affecting SCL implementation. Regarding the second research question, the findings showed that teachers perceived SCL implementation as a demanding process requiring changes in institutional expectations, teaching practices, available resources, and student learning habits.

Beyond confirming barriers reported in previous studies, this study contributes by demonstrating how these challenges interact within a specific higher vocational context. In particular, the findings illustrate how performance-based institutional accountability may limit teachers' capacity to adopt student-centred practices, even when they recognize the pedagogical value of SCL.

The study contributes to theoretical understanding by demonstrating how Fullan's theory of educational change, CBAM, and Rogan and Grayson's curriculum implementation framework can be used together to explain the persistent gap between reform policy and classroom practice. The findings suggest that sustainable SCL implementation requires more than teacher willingness. It requires institutional evaluation reform, improved learning environments, discipline-specific professional development, and gradual support for students' transition toward active learning. Without these systemic supports, SCL reform may remain at the level of performative compliance rather than becoming a meaningful transformation of teaching and learning in higher vocational education. However, the findings should be interpreted within their specific context. The participants comprised 13 engineering and technology teachers from four higher vocational colleges in Shandong. Therefore, the findings are not intended to represent all higher vocational teachers or institutions across China, but rather to provide context-sensitive insights into SCL implementation in comparable vocational settings.

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