DEVELOPMENT OF AN INSTRUCTIONAL MODEL USING SOCIAL COGNITIVE AND SITUATED LEARNING THEORIES TO ENHANCE CIVIC RESPONSIBILITY AND LEARNING ACHIEVEMENT OF UNDERGRADUATES IN CHINA

Weina Hong*
Faculty of Education, Udon Thani Rajabhat University, Thailand
School of Marxism, Zhejiang University of Science and Technology, China
Chatchai Muangpatom and Julamas Jansrisukot
Faculty of Education Udon Thani Rajabhat University, Thailand
*Corresponding Author E-mail: 61171144@qq.com
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Abstract

The objectives of this study were (1) to develop an instructional model using social cognitive and situated learning theories to enhance Chinese undergraduates' civic responsibility and learning achievement, and (2) to validate the model's quality regarding its feasibility for use in a real class. This study adopted a two-phase mixed research model combining qualitative and quantitative methods as follows: (1) Model development phase: Firstly, the researchers reviewed relevant literature and conducted semi-structured interviews with five experts and ten undergraduates to clarify the theoretical basis and research focus. Secondly, the researchers designed an instructional model using social cognitive and situated learning theories based on the findings from the first step. Thirdly, the researchers invited five experts to validate the model using the Index of Item-Objective Congruence (IOC) and a five-point Likert scale, and the model was revised based on experts' recommendations and (2) Pilot implementation phase: In this phase, the researchers developed experimental tools and conducted a pilot teaching study with sixty non-sample students. The study results were as follows:

(1) The semi-structured interviews affirmed the necessity of developing a new instructional model and the effectiveness of applying social cognitive and situated learning theories in the model development. The developed instructional model using social cognitive and situated learning theories had seven core elements, including instructional theories, principles, objectives, contents, processes, environment and evaluation. Combining the opinions of five experts, the instructional model achieved an IOC score of 1.00 and an overall mean score of 4.72, indicating high content validity and appropriateness. (2) The pilot teaching results initially validated the model's feasibility for use in a real class, and the participants expressed high levels of agreement with the

model, citing improvements in their mastery of course knowledge and civic responsibility.

Keywords: Social cognitive theory, Situated learning theory, Instructional model, Civic responsibility, Learning achievement

Introduction

As representatives of the new generation of intellectual resources, undergraduates' sense of collective responsibility directly influences society development. However, the Survey Report on Chinese Undergraduates' Sense of Social Responsibility released by Tianjin Normal University (2022) has indicated that undergraduates' understanding of responsibility is polarized, their willingness to assume civic responsibilities is unstable, there is a disconnection between knowledge and action in the practice of civic responsibilities, and their sense of responsibility in the virtual online society needs to be strengthened. To effectively address these issues, multi-dimensional interventions are required, with education being a key intervention strategy. In response, the CPC Central Committee and the State Council of China (2025) have issued *The Education Power Construction Plan Outline (2024-2035)*, explicitly stressing advancing the reform of ideological and political courses in universities and the integration of ideological and political education with practical education. As the "first lesson in life" for Chinese undergraduates, the Ideology, Morality and the Rule of Law (IMRL) course is designated as a core carrier to cultivate students' civic responsibility. However, due to the deep-rooted output-oriented and didactic education model, the course reform has achieved no significant breakthroughs in integrating abstract concepts with real-life situations, balancing interest and compulsory learning, and connecting responsibility awareness with responsibility internalization. Hence, advancing the IMRL course reform to optimize students' learning experience and enhance their sense of civic responsibility remains a pressing and enduring imperative in higher education.

Social cognitive theory (SCT) has a profound impact on the education field. Within its framework, teachers can enhance students' emotional states, learning abilities and self-regulation skills, while optimizing classroom environments and instructional structures. Situated learning theory (SLT) is an important theory in educational psychology, highlighting placing learners in specific situations to improve their knowledge comprehension and learning engagement. The integration of SCT and SLT can remedy existing deficiencies in the LMRL course, including the disconnection between theory and context and the separation between responsibility cognition and practical action. To this end, this study constructs an instructional model guided by SCT and SLT to improve undergraduates' ideological and moral standards, legal literacy, academic performance, and civic responsibility.

Research Objectives

1. To develop an instructional model based on SCT and SLT to enhance Chinese undergraduate' civic responsibility and learning achievement.

2. To validate the model's quality regarding its feasibility for use in a real class.

Literature Review

1. Instructional model

Joyce, B. and Weil, M. (2000) defined instructional models as systematic methods used by teachers in specific instructional contexts, comprising a series of structured strategies and procedures aimed at achieving specified educational objectives. As for instructional model components, Joyce, B. and Weil, M. (1972) argued that Instructional models should include instructional objectives, instructional strategies, teaching environment, teaching content, and teaching feedback. Chen, G. (1998) proposed instructional models that should include theoretical basis, objectives and principles, content organization, teaching methods, evaluation and feedback, and teaching environment. Synthesizing these views, this research identifies seven components of instructional models: instructional theories, principles, objectives, contents, processes, environment, and assessment.

2. Social cognitive theory (SCT)

Bandura, A. (1986) defined that core concepts of SCT include triadic reciprocal determinism (human action is the outcome of a triadic interaction between personal, behavioral and environmental), observational learning (acquiring new knowledge by observing others' actions and consequences with processes including attention, retention, production and motivation), and self-efficacy (belief in ability to perform a task or achieve a goal). Guided by the theory, this study develops an instructional model. Specifically, core principles of SCT applied in model development include emphasizing the interaction between environment, individual and behavior (Bandura, A., 1986), providing opportunities for observational and imitative learning (Schunk, D., 2012), using positive incentives and feedback to enhance motivation (Zimmerman, B., 2000), and highlighting situational context influence on personal growth (Flavell, J., 1992).

3. Situated learning theory (SLT)

Lave, J. and Wenger, E. (1991) described that SLT include three core concepts: community of practice, legitimate peripheral participation (the process of moving from knowledge to practice) and apprenticeship learning; and include two learning principles: presenting knowledge in practical contexts, and learning through social interaction and collaboration. In summary, SLT holds that learners achieve cross-situational knowledge

transfer, emotional enhancement, and behavioral output through perception, interaction, and expression in specific contexts. This inspires the construction of instructional models that connect knowledge to real life situations and the creation of authentic teaching environments.

4. Related research on SCT and SLT in educational applications

SCT and SLT have been widely applied in empirical researches in diverse educational contexts. Panigrahi, R. et al. (2022) applied SCT to examine how environmental factors (e.g., peer and instructor interactions) influence student engagement in blended learning environments. Results showed that the factors positively affected engagement, which enhanced perceived learning effectiveness and academic performance. Wang, F. and Noordin, Z. (2024) constructed a moderated mediation model based on SCT to explore the relationship between undergraduates' academic self-efficacy and learning engagement. Results indicated academic self-efficacy had a significant positive predictive effect on undergraduates' learning engagement. Grounded in SLT, Lin, H. and Chen, Q. (2025) investigated the effects of AI-assisted learning on undergraduates' motivation, emotion regulation, and academic uncertainty. Results demonstrated that the AI group, designed in alignment with SLT principles, exhibited significantly higher motivation and emotion regulation as well as lower academic uncertainty than the control group. Tzou, Y. (2024) conducted an empirical study on translation teaching grounded in SLT, emphasizing that teacher-guided collaborative situated learning—supported by authentic learning scenarios from online communities of non-professional translators—can significantly improve students' translation knowledge and skills. Taken together, these studies demonstrate that both SCT and SLT provide valuable insights into improving undergraduates' learning experiences and outcomes, serving as a robust theoretical foundation for developing effective instructional models in educational practice.

Conceptual Framework

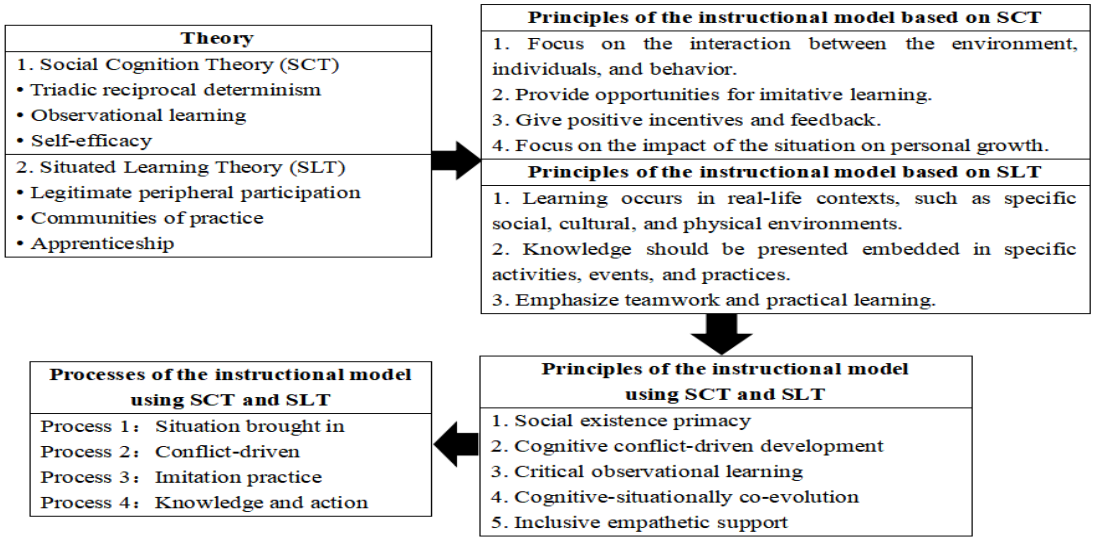


Figure 1 Conceptual framework in developing processes of the instructional model using SCT and SLT

Figure 1 presents the conceptual framework for developing the instructional model, extracting core pedagogical principles from the two theories and defining five overarching instructional principles and four sequential processes of the model.

Research Methodology

Phase 1: Model development

1. Target group: Five experts (purposively selected, including two in Curriculum and Instruction, two in teaching the IMRL course, and one in Assessment and Evaluation) and ten undergraduates (had completed the IMRL course at ZUST) for semi-structured interviewing, and five purposively selected experts (doctoral degree +≥ 5 years' experience) for evaluating.

2. Research instruments: (1) semi-structured interview protocols; and (2) an instructional model evaluation form consisting of open-ended questions and a 5-point Likert scale, and an IOC rating scale for the instructional model.

3. Data collection: (1) Semi-structured interview: Invitations were sent to participants. Interviews were conducted in person and data were recorded via notes, audio, and video then transcribed into written documents; (2) Expert evaluation: The draft instructional model and evaluation tools were distributed to experts. Experts independently evaluated the model and returned completed forms with comments. The researcher compiled and organized the raw data.

4. Data analysis: (1) Interview data were analyzed via the content analysis method to extract shared insights and unique perspectives, synthesized to provide evidence-based input for the model development; (2) The IOC, mean and standard deviation (S.D.) of expert ratings were calculated to evaluate the content validity and appropriateness of the model.

Phase 2: Pilot implementation

1. Population and samples: The target population consisted of 1,740 first-year students from 29 classes at ZUST who were enrolled in the IMRL course. From this population, a sample of 60 students was selected by simple random sampling.

2. Research instruments: (1) Six lesson plans (three used in the pilot teaching), developed based on the model, with an overall mean score of 4.35 (> 4.0) and a total S.D. score of 0.14 (< 0.2), reflecting a high level of consistency among the experts' opinions; (2) The undergraduate civic responsibility assessment scale, comprising 50 items (all achieved positive IOC values, with approximately 80% of the items receiving an IOC score of 1.00, demonstrating good content validity); and (3) Learning achievement test paper on the IMRL course, with the IOC values of questions ranging from 0.60 to 1.00, indicating adequate content validity.

3. Data collection: (1) Classroom observations, recorded by the researcher and one assistant; and (2) Student feedback, gathered from reflective comments completed by all 60 students after the lessons.

4. Data analysis: (1) Quantitative analysis: The IOC, mean and S.D. were used to evaluate the content validity and appropriateness of the research instruments; and (2) Qualitative analysis: Content analysis was used to analyze students' feedback and classroom observation records.

Results

1. Develop an instructional model using SCT and SLT

The researchers conducted semi-structured interviews with five experts and ten undergraduates to clarify the research focus. Results showed that interviewees agreed that civic responsibility was essential for qualified undergraduates. However, some students lacked a deep understanding of responsibility, and there was a polarization between awareness and actions. The IMRL course was essential for cultivating civic responsibility. However, due to overly traditional teaching models and theoretical teaching content, and insufficient situational experience, students lacked participation, interest, and a sense of achievement in the course. Course evaluation focused on knowledge levels, makes it difficult to reflect core goals of civic responsibility. In response, experts suggested developing an instructional model based on SCT

and SLT, with the main components including instructional theories, principles, objectives, processes, contents, environment, and evaluation. Based on the interview findings and literature analysis, the researchers designed an instructional model using SCT and SLT, which had seven components: instructional theories, principles, objectives, contents, processes, environment, and assessment. The teaching processes were structured into four parts and twelve steps.

Table 1 Framework of the Teaching Processes

Process 1 : Situation brought in (15 minutes)
Teaching step 1: Creating teaching atmosphere • Design environment matching teaching themes and build trustworthy teacher-student relationships. **Teaching step 2**: Introducing hot topics in society • Introduce real hot topics matching teaching themes and present topics objectively. **Teaching step 3**: Linking teaching and learning themes • Select cognitive touchpoints matching teaching objectives to introduce teaching themes, and provide necessary foundational concepts for in-depth learning.
Process 2 : Conflict-driven (45 minutes)
Teaching step 4: Constructing cognitive conflict • Pose questions (expressed in real-life conflicts and confusions) linked to learning themes, and identify real-life points of cognitive dissonance or possible confusion. **Teaching step 5**: Error-tolerant discussion • Encourage students to think and express views on topics authentically. Give inclusive empathic support (allowing controversial views to emerge). Establish corrective feedback mechanisms to turn erroneous views into teaching resources. **Teaching step 6**: Critical demonstration • Flesh discussed issues out (choosing specific cases for one aspect of the cognitive conflict). Visualize issue-solving mindset by models. Guide students to the answer through reverse thinking, questioning, or confusion. Translate others' experiences into personal cognitive strategies through critical interrogation. **Teaching step 7:** Providing theoretical support • Translate specific experiences in the example case into pedagogical knowledge. Theoretical elaboration of pedagogical knowledge points. Guide students to re-address the previously presented epistemic conflict with the theory tools.
Process 3: Imitation practice (45 minutes)
Teaching step 8: Situational reconstruction • Design complex or open-ended scenarios and guide students to identify changes and challenges. **Teaching step 9**: Critical learning • Organize cooperation and discussions and provide theoretical support at right time. Control potential on-site situations, such as too much debate. **Teaching step 10**: Cognitive reframing • Review critical learning processes, give positive incentives to students, and identify and correct deficiencies in learning. Summary teaching points and construct a mind map.
Process 4 : Knowledge and action (30 minutes)
Teaching step 11: In-class quiz • Post a link to the accompanying quiz. Error analysis and Q&A. **Teaching step 12**: Community practice tasks • Publish practice task theme and requirements. Follow up and guide students to implement practical tasks. Guide students to evaluate practice results. Result Presentation and social application.

The model was evaluated by five experts using the IOC method and a five-point Likert scale. The model achieved an IOC score of 1.00 and an overall mean score of 4.72, indicating high content validity and appropriateness. And experts suggested refining teaching objectives and strengthening the task guidance and teacher-student interaction in activities, and the means of formative assessment and process feedback.

Table 2 Appropriate Evaluation of Instructional Model

NO.	Components	Expert's rating					Mean	S.D.	Interpretation
		1	2	3	4	5			
1	Theories	5.00	4.75	5.00	5.00	4.50	4.85	0.33	High level
2	Principles	4.67	5.00	4.33	4.67	5.00	4.73	0.48	High level
3	Objectives	4.67	4.33	5.00	5.00	4.67	4.73	0.33	High level
4	Contents	5.00	4.33	5.00	4.67	4.67	4.73	0.48	High level
5	Processes	4.33	4.33	4.67	5.00	4.67	4.6	0.51	High level
6	Environment	5.00	5.00	4.00	4.67	5.00	4.73	0.48	High level
7	Evaluation	4.67	4.33	4.67	4.67	5.00	4.67	0.48	High level
	Total						4.72	0.44	

2. Validate the model's quality regarding its feasibility for use in a real class

In the pilot implementation phase, three revised and improved theme-based lesson plans were used. Overall, the results initially validated the model's feasibility for use in a real class, as detailed below:

2.1 Students' feedback

As can be seen from Table 3, most students generally reflected that the course content was close to real life, and the situational design could stimulate interest and in-depth thinking, which enhanced their mastery of knowledge, and ability of expression, cooperation and inquiry. Some students began to take the initiative to pay attention to social issues and showed a stronger sense of responsibility. Teachers generally believed that the model is logical, clear and operational, with an active classroom atmosphere and high student participation, initially realizing the combination of knowledge and action.

Table 3 Students' Feedback (Pilot Sample Size: N=60)

Item	Percentage of agreement	Keyword excerpts
Teaching content close to reality	94.6%	'Cases are real', 'very grounded', 'relevant to me'
Situational design provokes	92.1%	thinking 'Suddenly started to think about who I am', 'Really impactful'
Increased interest in learning	89.3%	'Not like traditional Civics class', 'I would like to continue to listen'
Enhanced sense of responsibility	85.7%	'For the first time', 'I feel connected to society'

2.2 Analysis results of the assessment scale and test paper

The reliability coefficient of the undergraduate civic responsibility assessment scale was 0.93, considered acceptable. The try-out results indicated that the scale was clear, easy to understand, and demonstrated an acceptable level of reliability. The overall reliability of the test paper was good ($\alpha \approx 0.93$), with good measurement consistency. The difficulty coefficient of questions ranged from 0.59 to 0.67, which was appropriate, with a certain degree of differentiation, and could cover the requirements of multilevel competence. And the IOC values of questions ranged from 0.60 to 1.00, indicating adequate content validity.

Body of knowledge

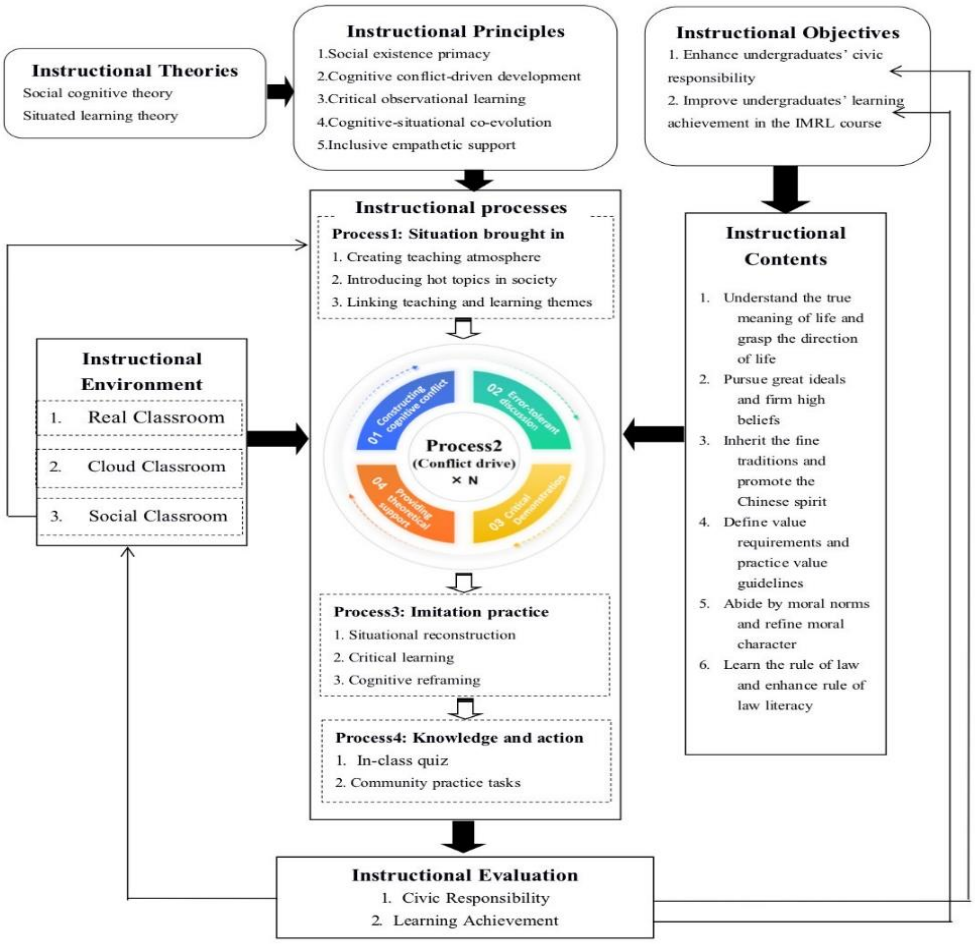


Figure 2 The instructional model using SCT and SLT

Figure 2 shows the instructional model with seven interrelated core components: Theories (SCT & SLT integration) underpin the model and guide the formulation of principles; objectives and contents form the core teaching blueprint, with four-phase processes designed under the principles to deliver the contents and achieve the objectives within the tailored environment, and the model's efficacy for fostering civic responsibility and learning achievement is measured by the evaluation system.

Conclusion

Semi-structured interviews verified the significance of civic responsibility and education's key role in cultivating civic responsibility. However, instructional models currently fail to meet the cultivation need, highlighting the necessity and urgency of instructional model innovation. Interviews and literature review collectively validated

the applicability of SLT and SCT in model development. based on preceding findings, this study developed an instructional model using SCT and SLT, consisting seven components, namely instructional theories, principles, objectives, contents, processes, environment, and evaluation. The model achieved an IOC score of 1.00 and an overall mean score of 4.72, indicating high content validity and appropriateness.

The pilot teaching yielded generally satisfactory outcomes. Students and teachers involved in the pilot teaching had favorable feedback on the model. Students stated the course can improve their knowledge mastery level, comprehensive abilities and civic responsibility. Teachers regarded the model as logically coherent and highly operable. Analyses of the assessment scale and test paper indicated that the scale was comprehensible and dependable with a reliability coefficient of 0.93. The test paper was reliable, well-designed and valid, with a reliability coefficient of 0.93, the difficulty coefficient of questions ranging from 0.59 to 0.67, and the IOC values of questions ranging from 0.60 to 1.00. Collectively, the pilot results preliminarily validated the model's feasibility for use in a real class and provided valuable experience for model optimization and subsequent teaching experiments.

In practice, the model addresses rote learning's core flaws by emphasizing situational interaction, active cognition and knowledge-action integration, shifting students from passive memorization to active exploration. Policy-wise, it aligns with national reform goals, translating quality-oriented education and theory-practice integration requirements into concrete classroom strategies. In summary, this study proposes a theoretically rigorous and practically viable framework that promotes undergraduates' academic achievement and civic responsibility, providing theoretical and empirical guidance for the modernization of ideological and political education in Chinese higher education.

Discussion

This research successfully developed an instructional model using SCT and SLT to enhance undergraduates' civic responsibility and learning achievement. The model consists of seven core interrelated components.

The theoretical foundation of the model is the integration of SCT and SLT, on the basis of which five core instructional principles are formulated: social existence primacy (Bandura, A., 1986), cognitive conflict-driven development (Lave, J. & Wenger, E., 1991), critical observational learning (Bandura, A., 1986), cognitive-situationally co-evolution (Bandura, A., 1986; Lave, J. & Wenger, E., 1991) and inclusive empathetic support (Bandura, A., 1986). The instructional objectives clearly define the knowledge,

skills and civic responsibilities that learners need to master, and the corresponding instructional contents cover outlook on life, ideals and beliefs, the spirit of China, core socialist values, moral values, legal knowledge and the spirit of the rule of law.

The model's four instructional processes are consistent with the knowledge contextualization advocated by SLT and the dynamic "environment-behavior-cognition" interaction model in SCT. Process 1 (Situation brought in) takes advantage of the situated nature of knowledge, with instructors presenting real-world problems to guide students to connect new and old experiences through observation and questioning. Process 2 (Conflict-driven) is based on Piaget's cognitive disequilibrium theory, constructing cognitive conflicts in controversial situations to stimulate students' enthusiasm for exploring new knowledge. Process 3 (Imitation practice) enables students to apply learned methods and experiences to complex situational problems, enhancing their practical skills, self-efficacy (Bandura, A., 1986) and civic responsibility, which aligns with Bandura, A.'s (1997) view that observational learning from role models builds learners' new skills, and successful imitation enhances their self-efficacy and promotes sustained practice. Process 4 (Knowledge and action) guides students to transform knowledge into practice via real-life tasks, realizing the unity of knowledge and action, and the improvement of social responsibility. learners adjust knowledge application in practice to achieve contextual reconstruction of knowledge (Lave, J. & Wenger, E., 1991), and their practical behaviors further generate or reconstruct new social situations (Bandura, A., 1986).

The instructional environment of the model includes real classrooms, social classrooms and cloud classrooms. For evaluation, the model adopts a combination of quantitative and qualitative methods: the evaluation of civic responsibility involves three dimensions (cognition, identity and action) in four aspects (individual, family, country and society), integrating the research of Wei, J. et al. (2015); learning achievement evaluation refers to exam results, mainly assessing students' knowledge, skills and higher-order thinking abilities (Bloom, B., 1956; Schunk, D. et al., 2014).

Suggestion

The recommendations are given as follows depending on the study result.

Utilizing Research Findings

Research findings highlighted the significance of civic responsibility and education's pivotal role in its cultivation. Traditional instructional models are insufficient to address cultivation demands, thereby necessitating pedagogical innovation.

The instructional model developed based on SCT and SLT demonstrated high content validity, and its pilot implementation yielded positive outcomes, confirming the model's feasibility. Accordingly, education institutions and relevant authorities are advised to adopt the following strategies: Attach greater importance to undergraduate civic responsibility education and advance the innovation of traditional curriculum models. The developed instructional model using SCT and SLT may be implemented via small-scale pilot teaching prior to full-scale application to accumulate practical experience and refine details based on practical scenarios. Notably, the model's application requires no comprehensive restructuring of existing courses but can be implemented through modular integration, with its core steps gradually integrated into current teaching as modules.

Future Research

It is possible to deepen the exploration of mediating variables or conduct in-depth studies on individual student differences (e.g., prior knowledge, motivation, cultural background), teacher characteristics, and the moderating effects of school and community environmental factors on model efficacy.

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