THE EFFECTS OF AN INSTRUCTIONAL MODEL USING CONSTRUCTIVIST THEORY AND A TASK-BASED LEARNING APPROACH TO ENHANCE THE CHINESE TEACHING COMPETENCY OF NORMAL UNIVERSITY STUDENTS IN CHINA

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Abstract

The purposes of this study were: 1) to compare students' Chinese teaching competency after the experiment between the experimental group and the control group; 2) to compare students' Chinese teaching competency before and after the experiment within the experimental and control groups; and 3) to study the students' satisfaction after implementing the instructional model using constructivist theory and task-based learning approach in the experimental group. The sample consisted of 80 undergraduate students majoring in Elementary Education at Sichuan Minzu College of Higher Education, China. Two intact classes were selected using cluster random sampling. One class (n = 40) was assigned as the experimental group, which received instruction through the instructional model, while the other class (n = 40) served as the control group and was taught using traditional methods. The experiment lasted 48 instructional periods (3 periods per week, 40 minutes each). The research instruments included six lesson plans based on the instructional model, six traditional lesson plans, a validated Chinese teaching competency assessment, and a student satisfaction questionnaire. The findings were as follows:

1) The average post-test score of the experimental group was 85.109, significantly higher than the control group's score of 79.134, with a t-value of 3.516 and a p-value < .001. The effect size 0.860 indicated a large practical impact of the CTBL instructional model on students' teaching competency.

2) The experimental group showed an average improvement from the pre-test score of 48.277 to the post-test score of 85.109, which is statistically significant, with a t-value of 16.885 and a p-value < .001. The effect sizes ranged from 0.76 to 1.40, with the most noticeable improvements in teaching design ability (d = 1.40) and teaching implementation ability (d = 0.92).

3) Student satisfaction with the instructional model was at a very high level.

Keywords: Constructivist Theory, Task-Based Learning, Instructional Model, Chinese Teaching Competency

Introduction

Preservice teachers in China play a vital role in improving the quality of basic education. Following the national teacher development policy, the Chinese government emphasizes programs that strengthen both theoretical knowledge and practical teaching competency (Yang, García-Holgado & Martínez-Abad, 2023). However, the current curriculum remains unbalanced, focusing primarily on theory rather than classroom application, which reduces teachers' confidence in connecting theory with practice. Li, Shi, and Xue (2020) noted that preservice and rural teachers often lack sufficient opportunities for pedagogical practice and professional support, creating a gap between training and school demands. Consequently, Chinese language teaching becomes increasingly challenging, as it requires not only linguistic proficiency but also cultural and pedagogical competence (Yang, Martínez-Abad, & García-Holgado, 2022).

Studies indicate that teacher training in China continues to face structural and pedagogical challenges. Wang, Nokkala, and Moate (2024) found that, compared with Finland, China's teacher education system places greater emphasis on academic theory than on developing core teaching competencies. Zhao et al. (2022, cited in Yang et al., 2023) also reported that many preservice teachers struggle to integrate digital technology into classroom instruction, particularly in Chinese language teaching. This limitation reduces opportunities for interactive and contextualized learning while reinforcing outdated methods. As Yang, García-Holgado, and Martínez-Abad (2023) emphasized, developing digital competence must accompany pedagogical training to prepare preservice teachers for 21st-century classrooms.

The aforementioned issues highlight the urgent need for an instructional model that fosters teaching competency aligned with national educational demands. Prior studies indicate that integrating Constructivist Theory with the Task-Based Learning (TBL) approach enhances active participation, critical thinking, and the application of knowledge in authentic contexts, proving particularly effective in language instruction (Suhendi & Purwarno, 2018; Bryfonski, 2021; Liu, Mishan & Chambers, 2018).

To address the issues mentioned above, this study aims to develop an instructional model based on constructivist theory and task-based learning to enhance the Chinese teaching competency of preservice teachers in Normal University. Specifically, the model focuses on strengthening four key abilities lesson planning,

instructional delivery, assessment, and reflective practice to align with curriculum standards and the needs of contemporary classrooms.

Research objectives

1. To compare students' Chinese teaching competency after the experiment between the experimental group and the control group.

2. To compare students' Chinese teaching competency before and after the experiment within the experimental and control groups.

3. To study the students' satisfaction after implementing the instructional model using constructivist theory and task-based learning approach in the experimental group.

Literature review

Constructivist theory

Piaget (1973) and Vygotsky (1978) argued that learners construct knowledge through prior experiences and social interaction. In language learning, this theory highlights authentic language use and collaborative activities (Williams & Burden, 1997). Teachers act as facilitators, guiding students to build knowledge, think critically, and regulate their learning. Wu et al. (2023) noted that constructivist learning fosters reflective and self-directed learning, both vital for professional growth. Li et al. (2020) found that constructivism enhances Chinese teaching competency, particularly in lesson planning, classroom management and learner-centered instruction. Thus, constructivist principles provide the foundation for designing teaching models that promote autonomy, contextualized practice, and reflective pedagogy in Chinese teacher education.

Task-Based Approach

Task-based learning is a learning approach regarding a learner-centered approach that incorporate rea-world tasks as the main of learning process. Ogilvie and Dunn (2013) state that this approach has three main phases including pre-task phase, where teachers introduce the task and prepare learners with relevant background; during-task phase, where students work alone and with peers to complete the assigned task; and post-task phase, which emphasizes on reflection and extension of knowledge. Obviously, this approach can use to enhance thinking, communication, and application skills of students. Liu, Mishan, and Chambers (2018) found that Chinese EFL teachers perceived task-based instruction as an effective approach to strengthen classroom interaction and learner engagement, though they needed more methodological support during training. Similarly, Bryfonski (2021) confirmed that task-

based training helps novice teachers move from theory to practice by integrating reflection into classroom tasks, which is essential in teacher education.

Chinese teaching competency

Chinese teaching competency refers to integrated professional abilities essential for achieving instructional goals in Chinese language education. It includes four core elements: lesson planning, instructional use, learning assessment, and reflective teaching. Teaching Chinese involves both language and cultural understanding, aligning with the national curriculum and learners' needs. Wang, Nokkala, and Moate (2024) noted that China's teacher education emphasizes ethics, classroom management, and assessment within a culturally rooted, competency-based model. Likewise, Ye et al. (2021) identified key skills such as goal setting and motivation, while Echiverri and Lane (2019) found that task-based and constructivist approaches enhance teacher satisfaction and learning outcomes. Together, these studies highlight the need for integrating pedagogical expertise with cultural awareness in a structured competency framework.

Conceptual framework

The conceptual framework of this study is grounded in constructivist theory and the task-based learning approach. These approaches guided the development of a five-step instructional model: learning, practicing, evaluating, reflecting, and re-practicing. This model serves as the independent variable to enhance the Chinese teaching competency of preservice teachers in Normal University. It consists of four main components planning, implementing, assessing, and reflecting as shown in Figure 1.

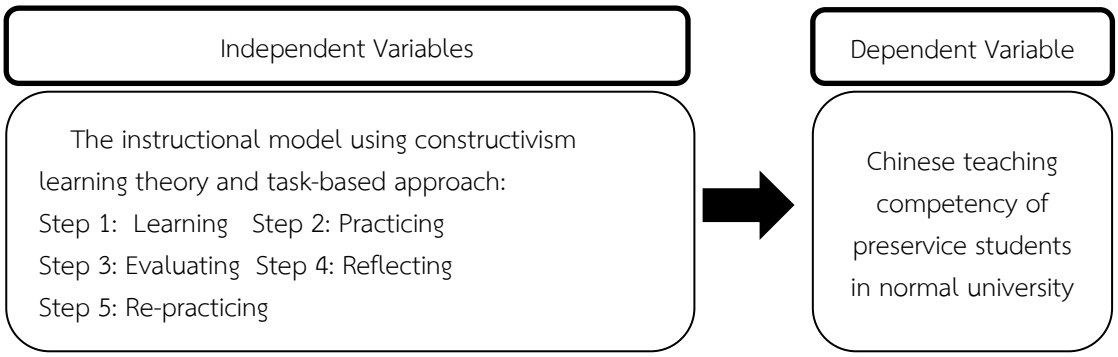

Figure 1 Conceptual framework

Research methodology

Population: The population in this study comprised 123 third-year students majoring in Early Childhood Education at Sichuan Minzu University, who were enrolled in the second semester of the 2024 academic year.

Samples: The sample size, calculated using G*Power 3.1 (effect size = 0.85, α = 0.05, power = 0.95), required at least 74 participants. Cluster random sampling selected three classrooms (n = 40 each). Classroom 1 served as the control group (traditional method), Classroom 2 as the experimental group (CTBL approach), and Classroom 3 for pilot testing. The pilot group shared similar characteristics (age, gender, GPA, major) with the main sample, confirming its suitability.

Instruments: The research instruments included lesson plans, a teaching competency assessment tool, and a satisfaction questionnaire, all validated by five experts for appropriateness and reliability. The lesson plans, based on Constructivist Theory and Task-Based Learning, had a content validity score of 4.47, while the assessment tool scored 4.43 (S.D. = 0.60) with a reliability coefficient of 0.910, indicating strong consistency. The satisfaction questionnaire also showed high validity, with IOC values ranging from 0.80 to 1.00, confirming its suitability for data collection.

Data Collection: Data collection occurred in two phases. During the pre-test, both groups were assessed on four components of Chinese teaching competency lesson planning, instructional implementation, evaluation, and reflection to establish baseline data. In the post-test, the same assessment was repeated, and the experimental group additionally completed a validated satisfaction questionnaire on the CTBL instructional model.

Data Analysis: Data were entered in Excel and analyzed using SPSS version 21. Independent and Paired Samples t-tests were applied to compare Chinese teaching competency between and within groups at a significance level of $p < .05$. For the experimental group's satisfaction, descriptive statistics (mean and standard deviation) were used to summarize each component and the overall score.

Ethical Approval Statement

This study received ethical approval from the Ethical Committee for Research in Human of Udon Thani Rajabhat University, Thailand (Protocol No. 0622.7/353; Reference No. HECUD.174/2024).

Results

Comparison of Chinese teaching competency between the experimental group and the control group after the implementation of the instructional model

After implementing six CTBL-based instructional plans over 12 weeks, data were collected from 80 students, divided equally into an experimental group (n = 40) and a control group (n = 40). Teaching competency was assessed before and after the intervention. Prior to statistical analysis, the Shapiro–Wilk test (n < 50) was applied using SPSS, showing all p-values > .05, indicating normal data distribution. Therefore, an Independent Samples t-test was conducted, and the results are presented in Table 1.

Table 1 Comparison of Teaching Competency Test Scores Between the Experimental and Control Groups Before and After the Experiment

Topics	Prescriptive Statistics	Between-Subject Analysis	
	Posttest Mean (SD)	t-value (p-value)	Effect Sizes(d)
Teaching Design Ability			
Experimental Group	85.544 (5.895)	5.057 (<.001)	1.131
Control Group	78.813 (6.009)		
Teaching Implementation Ability			
Experimental Group	86.050 (5.876)	5.045 (<.001)	1.128
Control Group	79.194 (6.273)		
Teaching Assessment Ability			
Experimental Group	85.468 (7.137)	3.678 (<.001)	0.822
Control Group	79.375 (7.672)		
Reflection Ability			
Experimental Group	83.409 (7.200)	2.532 (<.001)	0.566
Control Group	79.150 (7.829)		
Total Score			
Experimental Group	85.109 (7.535)	3.516 (<.001)	0.860
Control Group	79.134 (7.666)		

* Statistically significant at the .05 level

The findings revealed that the experimental group achieved significantly higher mean scores than the control group in all aspects of Chinese teaching competency Teaching Design Ability, Instructional Implementation, Assessment, and Reflection with all p-values < .001. The effect sizes ranged from 0.566 to 1.131, indicating large effects and a substantial impact of the instructional model. Specifically, the total teaching

competency score of the experimental group was M = 85.109, SD = 7.535, compared to M = 79.134, SD = 7.666 in the control group (t = 3.516, p < .001, d = 0.860). These results confirm that the Constructivist Theory and Task-Based Learning (CTBL) instructional model is highly effective in enhancing preservice teachers' teaching competency, both statistically and practically.

Comparison of Chinese Teaching Competency Before and After Using the Instructional Model Within the Experimental and Control Groups

The researcher used a Paired Samples t-test to compare the pre-test and post-test scores within each group. The results are shown in Table 2.

Table 2 Compare students' Chinese teaching competency before and after the experiment within the experimental group

Topics	Prescriptive Statistics		Within-Subject Analysis	
	Pretest Mean (SD)	Posttest Mean (SD)	t-value (p-value)	Effect Sizes(d)
Experimental Group				
Teaching Design Ability	48.588 (5.651)	85.544 (5.895)	28.254 (<.001)	1.40
Teaching Implementation Ability	50.475 (6.127)	86.050 (5.876)	27.577 (<.001)	0.92
Teaching Assessment Ability	46.194 (7.554)	85.468 (7.137)	21.255 (<.001)	1.34
Reflection Ability	47.850 (6.833)	83.409 (7.200)	21.939 (<.001)	1.06
Total Score	48.277 (7.948)	85.109 (7.535)	16.885 (<.001)	0.76
Control Group				
Teaching Design Ability	48.113 (6.329)	78.813 (6.009)	22.448 (<.001)	0.97
Teaching Implementation Ability	50.425 (6.480)	79.194 (6.273)	20.174 (<.001)	0.51
Teaching Assessment Ability	46.865 (7.340)	79.375 (7.672)	19.365 (<.001)	1.33
Reflection Ability	46.209 (7.226)	79.149 (7.829)	19.554 (<.001)	1.37
Total Score	47.902 (7.876)	79.134 (7.666)	17.972 (<.001)	1.02

* Statistically significant at the .05 level

The experimental group showed statistically significant improvements in all aspects of Chinese teaching competency after implementing the CTBL instructional model ($p < .001$), with large effect sizes for Teaching Design Ability ($d = 1.40$), Teaching Assessment Ability ($d = 1.34$), Reflection Ability ($d = 1.06$), Teaching Implementation Ability ($d = 0.92$), and Total Score ($d = 0.76$). Although the control group also showed significant gains ($p < .001$), its effect sizes Teaching Design Ability ($d = 0.97$), Teaching Assessment Ability ($d = 1.33$), Reflection Ability ($d = 1.37$), Teaching Implementation Ability ($d = 0.51$), and Total Score ($d = 1.02$) were consistently smaller. These results confirm that the CTBL instructional model not only produces statistically significant improvements but also demonstrates a stronger practical impact on enhancing Chinese teaching competency compared with traditional instruction.

Student satisfaction after participating in the instructional model based on Constructivist and the Task-Based Learning Approach

The researcher administered a satisfaction questionnaire to the experimental group after completing six CTBL-based lessons. The overall satisfaction was rated “very high” (Mean = 4.54, SD = 0.55). Students were most satisfied with the instructional model design (Mean = 4.57), praising its clarity, flexibility, and resource support. Learning assessment (Mean = 4.55) was valued for its clear criteria, constructive feedback, and motivational effect. Teaching content (Mean = 4.54) was seen as relevant and well-structured, while improved teaching competency (Mean = 4.53) reflected students’ perceived gains in planning, instruction, assessment, and reflection. These results confirm the effectiveness of the Constructivist Theory and Task-Based Learning (CTBL) instructional model in enhancing both academic achievement and learning experience, with strong potential for broader application in teacher education.

Discussion

1. Comparison of Students’ Chinese teaching Competency after the Experiment between the Experimental Group and the Control Group

The experimental group taught through the instructional model integrating Constructivist Theory and Task-Based Learning achieved significantly higher scores in all areas of Chinese teaching competency lesson planning, instructional use, assessment, and reflection than the control group ($p < .001$). The effect sizes ranged from $d = 0.566$ to 1.131, indicating large effects. This finding supports Wu et al. (2023), who reported that constructivist principles enhance students’ attitudes and problem-solving more effectively than traditional methods. Similarly, Liu, Mishan, and Chambers (2018) confirmed that task-based learning strengthens language skills and instructional

competence, particularly in Chinese education. Notably, Teaching Design Ability (d = 1.131) and Instructional Implementation (d = 1.128) showed the strongest impacts, suggesting that activities emphasizing lesson planning and execution most effectively improved overall teaching competency.

2. Internal Improvement within the Experimental Group after Implementing the Instructional Model Using Constructivist Theory and a Task-Based Learning Approach

Both groups improved after instruction, but the experimental group showed greater gains, especially in instructional implementation. This finding supports Wu et al. (2023), who demonstrated that experiential learning with reflective practice enhances professional preparation. It also aligns with Echiverri and Lane (2019), who found that interactive task-based activities significantly improved satisfaction and performance in a CLIL course in China. Similarly, Vygotsky and Cole (1978) emphasized that social interaction promotes higher-order thinking. The improvement pattern suggests that the reflection and evaluation stages of the CTBL cycle enhanced metacognitive awareness, helping preservice teachers assess and refine their teaching more effectively.

3. Students' Satisfaction after Implementing the Instructional Model Using Constructivist Theory and Task-Based Learning Approach in the Experimental Group

Student in the experimental group showed a very high level of their satisfaction with the instructional model, particularly in activity design, flexibility, clear assessment criteria, and positive impact on teaching abilities. The stated findings are relevant to Echiverri and Lane (2019) who discovered that an interactive learning model improved students' motivation and self-confidence. In addition, it also aligns with Liu et al. (2018), who spotlighted the importance of well-organized teacher training for successfully implementing "Task-Based Language Teaching (TBLT) " in Chinese education settings. This high satisfaction suggests that the CTBL model not only supported cognitive development but also improved affective engagement and teaching confidence, indicating its holistic effectiveness.

Body of knowledge

This study integrates constructivist theory and task-based learning to promote experiential learning, critical thinking, and systematic teaching skill development among preservice teachers. Constructivism emphasizes learning through experience and reflection, while task-based learning focuses on real-life tasks related to teaching

practice. The CTBL model combines these principles to enhance Chinese teaching competency in lesson planning, instruction, assessment, and reflection. It differs from existing models by linking task cycles with reflective assessment, strengthening the connection between theory and classroom practice.

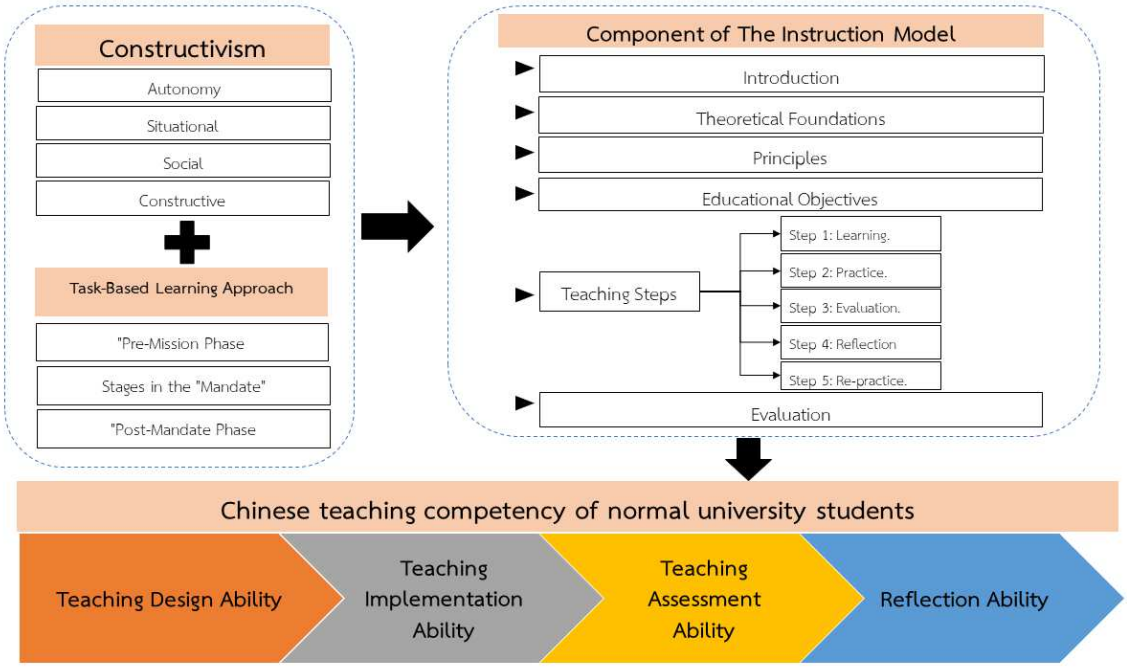

Figure 2 Instructional Model to Enhance Chinese Teaching Competency

Conclusion

1. Comparison of Chinese Teaching Competency Between the Experimental and Control Groups

The study found that students in the experimental group who received instruction through the instructional model using constructivist theory and task-based learning showed significantly higher levels of Chinese teaching competency than those in the control group in all areas: teaching design ability, instructional implementation, assessment, and reflection. The results were statistically significant ($p < .001$) for all competencies. The effect sizes ranged from 0.566 to 1.131, showing the large effects, particularly in teaching design ability ($d = 1.131$) and instructional implementation ability ($d = 1.128$). These findings confirm the effectiveness of the instructional model in enhancing higher teaching competency compared to traditional instructional methods.

2. Comparison of Teaching Competency Before and After the Experiment Within Groups

Paired-sample t-tests showed that both the experimental and control groups made statistically significant obtains in Chinese teaching competency from the pretest to posttest ($p < .001$ in all areas). However, the experimental group showed much better improvements, with effect sizes ranging from 0.76 to 1.40, especially in teaching design ability ($d = 1.40$) and instructional implementation ability ($d = 0.92$). These large effect sizes highlight the substantial impact of the instructional model in developing well-rounded teaching skills, far exceeding the moderate gains observed in the control group (effect sizes ranged from 0.51 to 1.37).

3. Student Satisfaction with the Constructivist Theory and Task-Based Learning Instructional Model

The results indicated a very high level of student satisfaction (Mean = 4.54, SD = 0.55) across all aspects. Students particularly valued the model's clear structure, engaging assessments, relevant content, and its positive impact on teaching competency. These findings confirm that the Constructivist Theory and Task-Based Learning (CTBL) model enhances both academic achievement and learning experience, supporting its wider adoption in teacher education programs.

Suggestion

From the research results the researcher has suggestions as follows:

1. **Suggestion for application**

The study shows that using the instructional model based on constructivist theory and task-based learning approach can help improve students' Chinese teaching competency. Because of this, the model can be applied in other teacher education programs to better prepare preservice teachers in teaching Chinese. In addition, educational institutions should use this instructional model with real-life teaching tasks, activities that encourage reflection, and group learning. Additional training should be given to ensure teachers can effectively create a classroom environment that is focused on students and based on tasks.

2. Suggestion for future research

Future research should use the instructional model from this study with bigger and more varied groups to better examine how effective it is. Also, longitudinal studies should look at how the instructional model works over time. Using digital tools along with this instructional model is also a recommendation. Plus, methods like interviews

and observations are suggested to better understand learners' experiences and improve the instructional model.

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