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Enhancing classroom satisfaction and student engagement in Chinese as a second language (CSL) classrooms based on the Selection, Design, Organization, and Assessment model: a mixed methods study

Cheng Yao[1],Siliang Yu[2],Phatwarin Akkhasriworachote[3]

[1]Faculty of Liberal Arts and Science, Nakhon Phanom University, Nakhon Phanom, Thailand
slevenyaocheng@163.com
[2]Faculty of Education, Nakhon Phanom University, Nakhon Phanom, Thailand
yusiliang630@gmail.com
[3]Faculty of Liberal Arts and Science, Nakhon Phanom University, Nakhon Phanom, Thailand
aj.phatwarin@gmail.com

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Abstract

Purpose: This paper aims to introduce and evaluate the effectiveness of the SDOA model (Selection, Design, Organization, and Assessment) in the context of teaching Chinese as a Second Language (CSL). It addresses the limitations of traditional second language education, which often tends to be passive, amidst the backdrop of China's increasing soft power and the growing importance of CSL education. Methodology: The study developed the SDOA model as a pedagogical framework aimed at empowering CSL learners by granting them greater autonomy and rights within the classroom setting. A mixed-method approach combining quantitative measurement and qualitative interviews was adopted to evaluate the impact of the SDOA model on CSL learners' satisfaction and engagement. Findings: Results demonstrate that implementing the SDOA model significantly improves students' satisfaction and engagement compared to traditional teaching methods. These findings underscore the effectiveness of the model in providing a more attractive and satisfactory learning environment for CSL students, while also highlighting the value of learner-centered teaching strategies. Conclusions: The SDOA model is highly effective in increasing the satisfaction and engagement of CSL learners.

Keywords: Classroom satisfaction; Student engagement; Second language (L2); Chinese as a second language (CSL); Selection, Design,Organisation, and Assessment (SDOA) model

Introduction

As globalization advances and cross-cultural communication becomes increasingly frequent, second language (L2) education occupies an increasingly important position within the entire education system. Traditional teaching methods often focus on the impartation of grammar and vocabulary, despite the desire to move away from this paradigm having existed for some time (Zeng et al., 2024). However, more and more educators are beginning to focus on individual differences and learning needs of students, attempting to innovate teaching activities and methods. Task-based learning and cooperative learning, which have emerged in recent years, emphasize students' initiative and engagement in L2 learning (Fang et al., 2021). Additionally, multimedia and internet technologies have brought revolutionary changes to L2 education (especially during the pandemic) (Shao et al., 2023). Furthermore, the application of advanced technologies such as virtual reality and artificial intelligence has provided more realistic and immersive learning experiences for L2 learning (Shafiee Ra, 2024).
However, most studies have found that research on L2 classroom satisfaction and student participation mainly

focuses on English as a second language (ESL) or foreign language (EFL) (Yu & Gao, 2022). Although Chinese as a second language (CSL) instruction is gradually receiving more attention globally, research on CSL classroom satisfaction and student participation remains relatively scarce. The significant differences in grammar structures, vocabulary systems, cultural disparities, and language habits of Chinese compared to other languages may lead to more difficulties and challenges for students in the learning process (Chai & Bao, 2023). Therefore, more research is needed to fill this gap.

We have designed a Self-Determination Oriented Approach (SDOA) model, consisting of four steps: Selection, Design, Organization, and Assessment. The SDOA model is based on self-determination theory and integrates the Whole School, Whole Community, Whole Child (WSCC) model into teaching practices (Morse & Allensworth, 2015). Self-determination theory emphasizes the importance of individuals' intrinsic motivation and autonomy for learning outcomes (Ryan & Vansteenkiste, 2023), while the WSCC model emphasizes empowering students. The SDOA model has been validated in practice to effectively enhance primary school students' self-management skills (Siliang et al., 2024). However, its impact on student satisfaction and participation in CSL classrooms still requires further investigation.

This study aims to explore the effects of the SDOA model on student CSL course satisfaction and participation. Building upon previous research, we further optimize and refine through a mixed-methods research design, combining qualitative interviews and quantitative measurements to gain a deeper understanding of the effectiveness of the SDOA model in CSL education. Specifically, we focus on key dimensions such as students' satisfaction with course content and teaching methods, learning environment and atmosphere, personal learning experiences and challenges, as well as student participation and feedback mechanisms. Through comprehensive analysis of these aspects, we will uncover the influence of the SDOA model on students' learning experiences and participation, providing important insights and guidance for educational practice.

1. Literature Review

1.1 Course Satisfaction

Students are the primary clientele of higher education institutions. Course satisfaction reflects students' acceptance of course content, endorsement of teaching methods, and satisfaction with their learning experiences, encompassing aspects of teaching quality, course content, workload, and learning environment (Rajabalee & Santally, 2021). Numerous factors such as teacher effectiveness, course organization, student engagement, relevance of materials to real-world applications, resource availability, support services, assessment methods, and opportunities for peer interaction all influence course satisfaction (Wong & Chapman, 2023). Students' personal motivations, learning preferences, and existing knowledge also impact course satisfaction (Gopal et al., 2021).

With the innovation and development of educational models, research on course satisfaction is on the rise, particularly during the COVID-19 pandemic when schools and institutions shifted to online education, sparking concerns about the experiences of students and teachers in online learning environments (Adedoyin & Soykan, 2023). Chen et al. (2020) found that individual user factors did not directly influence user satisfaction, whereas platform usability had the greatest impact on user satisfaction. While some studies affirm the satisfaction with online education (Baloran et al., 2021), others indicate skepticism among students towards classroom activities (Quispe-Prieto et al., 2021) or low satisfaction levels (Agyeiwaah et al., 2022).

Previous research has mainly focused on the flipped classroom model, which has attracted attention due to its student-centered advantages. For instance, Karaoğlan Yılmaz (2022) found a positive correlation between satisfaction, participation, and motivation. Although there are some issues leading to a decrease in overall student satisfaction (Lai, 2021), the majority of students express high satisfaction with the flipped teaching method (Awidi & Paynter, 2019). However, a model that combines flipped classroom with online environment found a decrease in students' enthusiasm and satisfaction with questions (Ní Gabhann-Dromgoole et al., 2023). In contrast, the teaching model of "online teaching + flipped classroom + online grading" significantly enhanced students' classroom satisfaction in practical applications (Feng & Feng, 2019).

1.2 Students Participation

The effectiveness of learning depends on students' level of participation in the classroom. Student participation is defined as cognitive, active, and affective engagement (Wiggins et al., 2017), while Reeve & Tseng (2011) suggest that student participation encompasses behavioral, emotional, cognitive, and agentic aspects. Núñez & León (2019) argue that behavioral participation manifests as attention, effort, and persistence, emotional engagement

involves the presence of positive emotions and the absence of negative emotions, cognitive engagement refers to the use of deep learning strategies, and agentic participation indicates the degree to which students raise questions and express preferences and needs during the teaching process.

Research indicates that student participation is a necessary factor for fulfilling educational missions (Cottafava et al., 2019), including improving academic achievement (Schnitzler et al., 2021), enhancing learning experiences (Leach, 2016), acquiring knowledge and skills (Getachew, 2023), and preventing risky behaviors among adolescents (Griffiths et al., 2022). However, some studies suggest that merely investing time and effort in learning does not guarantee good academic performance (Zhoc et al., 2019).

To stimulate students' active participation, establishing effective learning environments is crucial, and these learning modalities include collaborative learning (Qureshi et al., 2023), situated learning (Pöysä et al., 2019), blended learning (Heilporn et al., 2021), and project-based learning (PBL) (Lopez-Gazpio, 2021), among others. However, low rates of student participation are on the rise globally, and students' age, gender, and background differences have a certain impact on their participation levels (Martins et al., 2022). For instance, gender differences may result in variations in students' participation experiences in learning (Akalin et al., 2021). Additionally, factors such as family support (Gil et al., 2021), social background (Wang & Hofkens, 2020), cultural background (Chiu, 2022), and health conditions (emotional or physical) (Willms, 2003) also influence students' participation.

1.3 Relationship between Course Satisfaction and Student Engagement

Intrinsic motivation can predict positive emotions (Fishbach & Woolley, 2022). Intrinsic motivation drives individuals to pursue activities or goals, enjoying their pleasure, challenge, or satisfaction (Fishbach & Woolley, 2022). This implies that when students are satisfied with the course, they demonstrate more positivity, stronger engagement, and are more willing to interact. Conversely, there may be lower levels of participation and negative behavior.

Classroom satisfaction is positively correlated with student participation (Wu et al., 2022). However, there is scarce research focusing on whether classroom satisfaction enhances student participation, or if student participation improves classroom satisfaction. Typically, researchers introduce additional independent variables to simultaneously influence these two outcomes (e.g., Murillo-Zamorano et al., 2019; Yu et al., 2021). There is no evidence to suggest that teachers prioritize classroom satisfaction in actual teaching, yet it is an important indicator for evaluating teaching effectiveness (Låg & Sæle, 2019).

1.4 Selection, design, organization, and evaluation mode of SDOA

Self-determination theory suggests that when individuals' autonomy, competence, and relatedness are adequately satisfied, they are more likely to generate intrinsic motivation, thereby engaging more actively in learning, work, and other activities (Ryan & Vansteenkiste, 2023). The WSCC model places students at the core of the educational framework, emphasizing the creation of meaningful roles as allies, decision-makers, planners, and consumers for students during implementation. This educational philosophy highlights the agency of students, empowering them with a certain degree of autonomy in learning content and processes to ensure the effectiveness and meaningfulness of educational activities.

The dominant authority in the classroom: the teacher or the student? Historically, numerous studies have indicated that many teachers in the classroom tend to interact minimally with students, opting instead to ignore, explain, or lead activities (Lobman, 2005). However, with the emergence of various new teaching activity models, the balance of power in the classroom is gradually shifting towards students.

This study, based on Morse's WSCC model and Self-Determination Theory, focuses on student agency and establishes the SDOA model (Figure 1). In fact, the SDOA model inherits the classroom authority granted to students from the WSCC model. Students have external control rights over learning activities, curriculum design, and learning environments, as well as internal control rights over learning motivation, emotional regulation, self-reflection, and other aspects (Figure 2). Whether external or internal, control essentially involves a "Transfers Acquired."

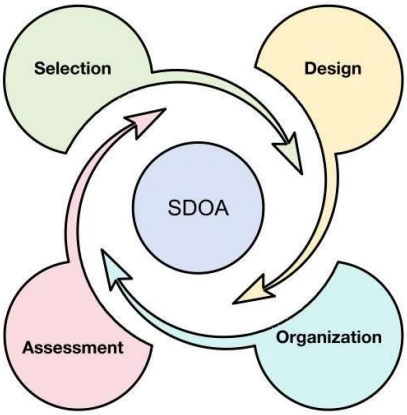

Figure 1. Flowchart of SDOA Model Instructional Activities.
Alt Text: Selection, Design, Organization and Assessment comprise the SDOA model.

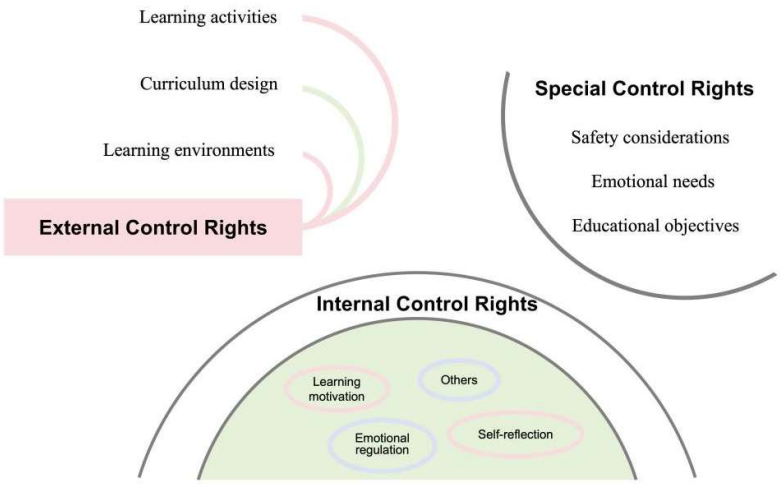

Figure 2. Internal, external and special control rights.
Alt Text: Internal control rights includes learning motivation, emotional regulation, self-reflection and others; External control rights includes learning activities, curriculum design and learning environments; special control rights includes safety considerations, emotional needs and educational objectives.

The application of the SDOA model in elementary school stages has been validated through empirical research. It was found that the organizational approach to classroom activities based on the SDOA model significantly enhanced students' self-management abilities. In the previous study, during the selection phase, teachers distributed blank cards and empowered students to choose the topic for classroom activities. In the design phase, groups of 4-5 students proposed activities based on the training content provided by the teacher, which were then reviewed and questioned by the class as a whole. Moving to the organization phase, students signed up for different activity groups based on their interests and preferences and began the activities according to the implementation plan jointly developed with the teacher. Finally, in the assessment phase, students summarized the problems and experiences encountered during the activities, exchanged feelings with participating students, and provided suggestions. Assessment methods included self-assessment, peer assessment, and teacher assessment.

From the preliminary workflow of the previous study, despite teacher collaboration, students' autonomy was significantly enhanced compared to traditional teacher-led classroom activities. It is worth noting that the previous study mainly targeted fourth-grade elementary students, and due to differences in the cognitive levels and grade

levels of students at different ages, the workflow designed for students at different stages may vary.

Furthermore, we believe that the SDOA model promotes systematic analysis of choices to identify the most popular and relevant options, but a balance must be struck between students' interests and educational needs. Interest refers to the focused attention and/or engagement in specific content and can be said to provide the possibility for (interest-based) activities (Hidi et al., 2004). From the foundational level of the SDOA model, interest is a "Urgency want" of students in the current state, which can only be limited to activities based on the SDOA model, stemming from individual intrinsic drives such as curiosity or enthusiasm , beyond which it becomes meaningless.

There is an interaction between "Transfers Acquired" and "Urgency want." When individuals have more "Transfers Acquired," they tend to lean towards choosing learning areas or activities that they "Urgency want" and become more actively involved in them. Conversely, when individuals exhibit a strong "Urgency want" for a certain subject or activity, they may want to acquire more "Transfers Acquired" (Figure 3). Therefore, in the SDOA model, students' autonomy is not only reflected in the selection of learning activities but also in their deep involvement and sustained commitment to the learning activities.

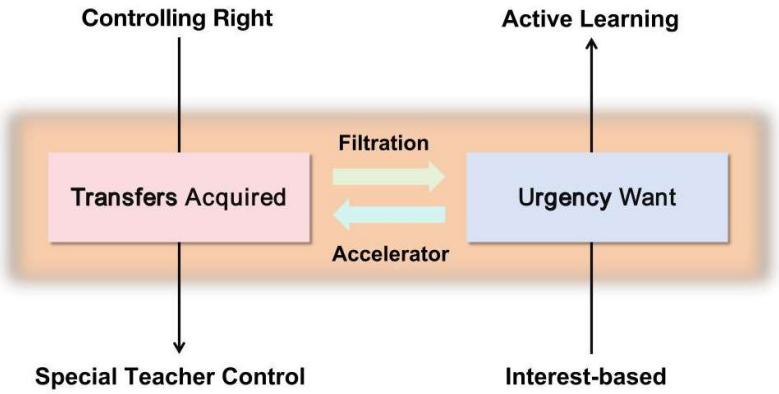

Figure 3. Interaction between Transfers Acquired and Urgency Want in the SDOA Model.

Alt Text: Increased "Transfers Acquired" positively influences engagement in learning areas or activities individuals "Urgency want," while strong "Urgency want" motivates acquisition of more "Transfers Acquired."

2. SDOA stages and anticipated students' workflow

The meticulously designed student workflow aims to engage students comprehensively in all stages of the SDOA model, thereby fully stimulating their creative and critical thinking abilities to promote deeper levels of learning and growth. Throughout this process, teachers will assume the roles of facilitators and guides, providing necessary support and guidance to students to ensure the smooth progression of the entire activity and assist students in successfully achieving their learning objectives. Table 1 elaborates on the anticipated workflow for students participating in SDOA activities in the CSL classroom.

Table 1. SDOA stages and anticipated students workflow.

SDOA	Anticipated students' workflow
Selection	Students were asked to list their top five favorite course topics, after which the teacher collected this data and compiled it to determine the ten most popular topics. Students then voted democratically to select their top five preferred topics from these ten.
Design	Students were divided into 5 groups based on selected topics, each comprising 1 leader and 4 members. The teacher provided training on developing effective activity plans. Groups independently completed plan designs and presented them to the whole class to receive feedback from peers and the teacher. Plans were then

	revised and improved through discussion with the teacher, with additional discussions on organizing and implementing activities, and strategies were developed to address challenges.
Organization	The activity leader is responsible for task allocation to ensure smooth progress in all aspects of the work. Throughout this process, teachers participate in discussions to explore potential issues and pre-established solutions. Once tasks are assigned, the activity group calculates the number of participating students based on the implementation plan and proceeds with the activity. Students can sign up for different activity groups according to their preferences.
Assessment	The assessment method employed is self-assessment. The activity groups summarize the problems and experiences encountered during the activities, while participating students share their feelings and provide suggestions. The teacher provides feedback to the activity groups.

2.1 Selection of Curriculum Activities

Biesta (2007) suggests that schools should strive for democratic action, creating conditions for students to become subjects and experience their significance. Classroom voting activities are at the core of active learning. To make effective choices, it is recommended that students record their "urgent wants" (learning preferences) for structured analysis, identifying the most popular and relevant options, while balancing interests with educational needs. Classroom voting can be implemented in various ways, depending on the available voting mechanisms, the arrangement of activities in the classroom, the type of voting questions, and the voting structure (Arthurs & Kreager, 2017). This type of voting further elucidates students' learning preferences and needs, enabling adjustments to teaching content and methods to better meet individualized student needs.

2.2 Design of Curriculum Activities

Learning is a socially mediated process (Vygotsky & Cole, 1978). The intersubjective role during the learning process is when learners achieve shared meanings by exchanging their ideas (Nathan et al., 2007). Designs also must be feasible (aligned with actual teaching conditions) and not fanciful, with cognitive levels as a priority for reasonably allocating the "transferable gains" students should receive. As we have previously expressed concerns about primary school activity designs, due to the young age of students, certain crucial aspects may be overlooked in the design process, such as safety considerations, educational objectives, and emotional needs (Figure 2). Consequently, these "special controls" must be entirely managed by the teacher.

2.3 Organization of Curriculum Activities

Organization is a systematic coordination process aimed at optimizing and maximizing the utilization of learning resources. The SDOA model encourages students to transition from passive participants to active organizers, viewing organization as a collective process of learning and improvement to establish a learning organization. An organization is an open, robust learning environment that motivates and facilitates learning among its members, enhancing adaptability, improvement, and competitiveness (Sun, 2003). In addition to special controls, organizing classroom activities is the only stage that fully transfers external and internal control to students. When organizing classroom activities using the SDOA model, three core elements include activity management, task allocation, and concrete practice. Activity management involves planning and controlling the activity process to ensure orderly and efficient execution; task allocation clearly assigns tasks to team members to ensure clarity of responsibilities and reasonable division of labor; concrete practice requires team members to carry out tasks.

2.4 Evaluation of Curriculum Activities

The significance of classroom activity assessment lies in enhancing teaching effectiveness, improving student learning outcomes, and providing feedback for teachers to refine teaching methods. Mak & Lee (2014) explored learning assessment in L2 writing classrooms but emphasized that teachers should promote assessment practices within the examination culture. Assessment of classroom activities should involve self-assessment, peer assessment, and teacher assessment (Webb, 2009) to provide comprehensive feedback. As direct participants in the activities, university students benefit from self-assessment as it helps them recognize their learning status,

promotes self-reflection and self-management, and enhances internal locus of control over their learning journey. Therefore, classroom activity assessment should be completed by the students themselves.

3. Methods

3.1 Research Objectives

This study aims to delve into the challenges faced in CSL classroom activities and reconstruct classroom activities based on the SDOA model. Through quantitative and qualitative research, a comprehensive evaluation will be conducted to assess the actual impact of reconstruction on student satisfaction and participation, providing theoretical support and practical guidance for students to achieve efficient active learning in CSL classroom activities. Additionally, the study will explore the framework construction of the SDOA model to continuously optimize and improve relevant theoretical systems, providing novel, scientific, and rational guidance for teaching practices.

3.2 Research Hypotheses

H1: Classroom activities based on the SDOA model can enhance student satisfaction in CSL courses.

H2: Classroom activities based on the SDOA model can enhance student engagement in CSL courses.

3.3 Research Design

This study employed a mixed research design, collecting both quantitative and qualitative data. A non-probability sample of students participated in a natural environment. Class A served as the experimental group, implementing SDOA model teaching activities, while class B served as the control group, implementing traditional models. Given that it was the research team's first time teaching and the same teacher was involved, who had undergone standardized classroom management training, pre-testing was deemed unnecessary. Control over activity themes, teacher evaluations, and timing was exercised to eliminate extraneous variables. A post-test was administered using established measures of course satisfaction and student engagement, with grades serving as a reference for experimental outcomes, with a significance level set at 0.05. In-depth interviews were conducted to understand students' feelings, perspectives, and experiences regarding classroom activities, aiming to comprehend preferences, challenges, and recommendations for different activity models. The study lasted for one month, with a single post-test conducted to assess teaching effectiveness.

3.4 Research Variables

The independent variable in this study is the implementation model used, divided into two categories: traditional model and SDOA model. The dependent variables are university students' satisfaction and engagement in CSL courses.

3.5 Participants

The research sample comprises first-year students from the Science and Humanities College of a public university in Thailand. Students are from two classes, Class A (experimental group) and Class B (control group). Class A consists of 25 students (2 male, 23 female), while Class B consists of 23 students (3 male, 20 female). Thus, a total of 48 students participated in this study.

3.6 Ethical Approval

Ethical approval for this research has been obtained from all participants, who are fully informed of the research purpose, process, potential risks, and their rights. We strictly adhere to relevant ethical regulations and guidelines, ensuring the rights and privacy of participants.

3.7 Implementation of Curriculum Activities

Drawing upon prior research (Siliang et al., 2024), this study closely adhered to the school curriculum and designed 10 activity themes, specifying student recruitment for participants. After compiling the lists (Table 2), teachers organized students to participate in activities corresponding to their respective themes and summarized and evaluated the effectiveness of the activities. Considering insights from Rau and Heyl (1990), a class size of five was chosen to promote inclusive participation. At the outset of the activities, students listed their top five favorite course themes, which were then voted on democratically to select the top five themes (Table 3). Leaders were appointed for each theme, forming five-person teams, constituting five activity planning groups. Teachers provided specialized training to ensure that the groups acquired the skills needed to develop thoughtful and structured plans. The groups independently completed the planning designs and presented them to the entire class for feedback, subsequently refining them through discussion. Additionally, the groups engaged in discussions with the teacher regarding the organization and implementation of activities, foreseeing and devising strategies to

address potential challenges. Following the conclusion of the activities, the groups presented summary reports to the entire student body.

Table 2. Initial registration of activities in SCL.

No.	Activity Theme	Number of Registrations
1	Song singing competition	29
2	Movie Night	42
3	Reading sharing session	25
4	Calligraphy Creation Workshop	28
5	Manual Paper Cuttings	35
6	Tongue twister competition	12
7	Speech competition	26
8	Tea ceremony tasting	39
9	Appreciation of Ethnic Dance	23
10	Simulated travel	45

Table 3. Final voting result for activity theme.

No.	Activity Theme	Number of Registrations
1	Song singing competition	12
2	Movie Night	21
3	Reading sharing session	7
4	Calligraphy Creation Workshop	15
5	Manual Paper Cuttings	10
6	Tongue twister competition	4
7	Speech competition	14
8	Tea ceremony tasting	24
9	Appreciation of Ethnic Dance	17
10	Simulated travel	19

3.8 Research Instruments

This study aims to investigate the impact of the SDOA model on student satisfaction and engagement in CSL courses. To achieve this, the research utilized qualitative interviews and assessment tools, including the CSL Course Satisfaction Scale-Self-Reported and the CSL Student Engagement Scale-Self-Reported. Standardized open-ended interviews were conducted to examine student satisfaction and engagement in CSL courses, focusing on four dimensions: course content and teaching methods, learning environment and atmosphere, personal learning experiences and challenges, and student participation and feedback mechanisms. Ten students were randomly selected from the control group as interviewees (designated as S1 to S10), with the order and wording of questions predetermined and conducted in a fully open format.

This study employed specially designed scales to measure student satisfaction and engagement with the course and to understand the effects of the SDOA model intervention. The Course Satisfaction Scale-Self-Reported covers 10 dimensions: teaching content, textbook quality, teaching methods, activity design, teaching effectiveness, teaching feedback, classroom atmosphere, learning environment, learning outcomes, and personal development. Each dimension comprises three items, rated using a Likert scale (1 = very dissatisfied, 5 = very satisfied), administered after the experiment. The Student Engagement Scale-Self-Reported includes five dimensions: attentive listening, active answering, proactive questioning, participation in discussions, and participation in evaluations. Each dimension consists of five items, also rated using a Likert scale (1 = strongly disagree, 5 = strongly agree), administered after the experiment.

Reliability analysis using SPSS 26.0 was conducted on the scales, showing Cronbach's alpha values for both scales exceeding 0.7 (Table 4), indicating high reliability and internal consistency. Additionally, the KMO values for both scales were above 0.7 (Table 5), and Bartlett's test of sphericity had a significance level below 0.05, further confirming the scales' high validity. Therefore, these two scales serve as reliable tools for evaluating the quality of L2 classroom instruction.

Table 4. Cronbach's α coefficient.

Scale	items	Cronbach's α coefficient
The CSL course satisfaction scale	10	0.846
The CSL student engagement scale	10	0.931

Table 5. KMO test & Bartlett test.

Scale	KMO	df	Bartlett test of Sphericity	P
The CSL course satisfaction scale	0.805	45	105.592	0.000***
The CSL student engagement scale	0.817	45	194.059	0.000***

4. Results

4.1 Results of Interview

(1) Course Content and Teaching Methods

Question 1:What are your thoughts on the content and methods of this activity, and what aspects do you find particularly effective or in need of improvement?

S3 and S7: "I gained a deeper understanding of China, and I hope to study there."

S2 and S6: "Very interesting, I learned a lot of colloquial expressions."

S9: "I found this activity relaxing and enjoyable."

S1, S5, and S10: "Very practical."

S4: "It's okay, but the activities were a bit too dense."

S8: "The competition activities made me feel very stressed."

The interview responses indicate that the activity has achieved positive results in promoting learning, enhancing understanding, and increasing participant engagement. Participants generally found the activity content practical and directly applicable to daily life, providing them with a practical learning experience. Additionally, the activity attracted participants' interest and willingness to engage in learning through rich and interesting methods, such as learning colloquial expressions and creating a relaxed and enjoyable atmosphere. However, some concerns were raised about certain aspects of the activity arrangements, such as the dense schedule and the stress induced by competition activities.

(2) Learning Environment and Atmosphere

Question 2: How do you perceive the learning environment and atmosphere of this activity, and does it contribute to your learning and participation?

S2, S7, and S9: "The learning environment is very relaxed, and I want to continue participating in this type of activity."

S1 and S3: "The mutual help among classmates makes me feel very warm."

S5, S8: "We can ask questions without hesitation."

S10: "The relaxed atmosphere motivates me to explore knowledge."

S4: "Everyone is willing to share their viewpoints."

S6: "The teacher is very respectful and caring."

Sean Kearney et al. (2016) found a significant correlation between the learning environment atmosphere and student interest in learning. Participants in this study generally gave positive evaluations of the learning environment and atmosphere of the activity. They believed that the learning environment was relaxed and warm, filled with a spirit of mutual assistance, which encouraged them to ask questions and share viewpoints, thereby enhancing interaction and participation in learning. Participants also stated that the grouping arrangements motivated them to explore knowledge further, while the teacher was praised for being respectful and caring towards students. This indicates that the learning environment and atmosphere of the activity are conducive to student learning and participation, and participants expressed satisfaction with the relaxed, supportive, and respectful atmosphere, expressing a willingness to continue participating.

(3) Personal Learning Experiences and Challenges

Question 3: What was your most satisfying learning experience in this activity, and at the same time, what challenges did you encounter in the learning process?

S2, S3, and S10: "I could choose the learning content I liked."

S1 and S7: "I acquired a lot of new knowledge and skills through practical activities."

S9: "I had the opportunity to showcase my public speaking skills."
S6, S8: "I gained a deeper understanding of China."
S4 and S5: "I couldn't accurately express or understand others' ideas."
Participants generally expressed satisfaction with their learning experiences in this activity but also pointed out some challenges. Most participants enjoyed the experience of being able to choose their learning content, feeling empowered and interested. Some participants gained new knowledge and skills through practical activities, enriching their learning experience. Meanwhile, a few participants found the opportunity to showcase their public speaking skills satisfying, which boosted their confidence and expression abilities. Additionally, some participants mentioned gaining a deeper understanding of China through the activity, aiding in broadening their horizons and promoting cross-cultural understanding. However, some participants faced communication barriers, making it difficult for them to accurately express or understand others' ideas, which could affect their learning outcomes. Although participants had different learning experiences, the activity provided them with diverse learning opportunities. To further improve learning outcomes, more support and guidance may be needed to overcome communication barriers and meet the diverse learning needs of participants.
(4) Student Engagement and Feedback Mechanism
Question 4: Do you think the teacher's feedback to students is timely and effective, and do you feel you have enough opportunities to participate in discussions and interactions in class?
S2 and S9: "I think the teacher's feedback to students is very timely and effective."
S7: "The teacher's feedback is very constructive."
S4, S5, and S10: "I feel the teacher's feedback is timely, but sometimes lacks specific guidance and suggestions."
S3 and S8: "Class discussions are very intense, and I have many opportunities to speak."
S1 and S6: "The suggestions made by classmates lack specificity, and the discussions are not very effective."
Participants hold different views on teacher feedback and classroom interaction. While most participants positively evaluate the feedback from the teacher, considering it timely and constructive, some participants feel that the feedback sometimes lacks specific guidance and suggestions. Regarding classroom interaction, some participants feel they have ample opportunities to speak up and participate in discussions, perceiving the classroom atmosphere as intense. However, others believe that discussions lack effectiveness, with suggestions from peers lacking specificity. Overall, these diverse views reflect variations in students' expectations and experiences regarding feedback and interaction during the learning process. Feedback serves as a cornerstone of formative teaching practices, being one of the most powerful instructional tools available (Chan et al., 2014). To enhance learning outcomes, it may be necessary to refine feedback methods to ensure specificity and guidance and improve the effectiveness and participation of classroom interactions.
In summary, while the majority of participants hold a positive attitude towards the activity, generally finding the content practical and engaging, with flexible teaching methods and a harmonious learning atmosphere, there are also suggestions for improvement, such as adjusting the compactness of activity arrangements, addressing the pressure from competitive elements, optimizing communication channels, boosting individual learning motivation, and enhancing the specificity of feedback content. Overall, while the activity has achieved significant success in improving learning effectiveness and fostering enthusiasm for participation, there is still room for improvement.

4.2 Results of Data

Given that the research team taught these two classes for the first time, eliminating the interference of historical factors and previous experiences, no pre-testing was deemed necessary. Therefore, it is assumed that there were no significant differences between the two classes before the experiment began.
Table 6 presents a comparison of the levels of course satisfaction and student engagement between Class A (receiving the SODA model) and Class B (receiving the traditional model). Concerning course satisfaction, the average score of Class A was significantly higher than that of Class B, with statistical analysis indicating a significant difference ($t=2.295$, $p<0.05$), Cohen's d value was 0.663, indicating a medium effect size according to Cohen (1988) classification. Similarly, regarding student engagement, the average score of Class A was significantly higher than that of Class B, with the statistical analysis yielding a significant difference ($t=2.06$, $p<0.05$), and Cohen's d value was 0.595, indicating a medium effect size. These findings suggest that students involved in teaching activities using the SODA model demonstrated better results in both course satisfaction and student engagement compared to those exposed to the traditional model, who performed poorer in both aspects.

Based on these observations, we can confirm hypotheses 1 and 2.

Table 6. Comparison of Course Satisfaction and Student Engagement Between Classes A and B.

variable	class	sample size	M	SD	t	p	Cohen's d
Course satisfaction	A	25	143.96	3.007	2.295	0.026**	0.663
	B	23	141.957	3.037			
Student engagement	A	25	119.2	3.391	2.06	0.045**	0.595
	B	23	117.087	3.716			

5. Discussion

The effectiveness of the SDOA model was validated through interview results and data analysis in this study. The interviews indicated that participants generally held a positive attitude towards the advantages demonstrated by the SDOA model, which effectively encouraged their engagement in learning. However, there are potential issues and areas for improvement in teaching activities, such as dense activity scheduling and the significant pressure from competitive activities, which require further optimization and enhancement to meet the needs of different students. Furthermore, the data analysis results revealed that classes receiving SODA model teaching activities significantly outperformed classes using traditional teaching methods in terms of course satisfaction and student engagement, with statistically significant differences. This further validates the effectiveness of the teaching activities. The comprehensive discussion of results and data analysis consistently demonstrates that SODA model teaching activities can better enhance student course satisfaction and engagement.

However, there are potential issues and areas for improvement in teaching activities, such as dense activity scheduling and the pressure caused by competitive activities. The provided literature indicates that intensive scheduling of L2 activities can lead to student fatigue (Ort & Smith, 1969). Cognitive Load Theory suggests that intensive learning activities may increase students' cognitive load, pushing them beyond their cognitive capacity, resulting in fatigue and decreased learning efficiency (De Jong, 2010). Additionally, Self-Determination Theory suggests that intrinsic motivation serves as a regulatory mechanism to protect individuals from excessive stress and negative emotions (Legault & Inzlicht, 2013). This challenge is akin to the findings of Maliborska & You (2016), which, although did not report long-term adverse effects, indicated that shorter ESL activities were more effective in enhancing student satisfaction. Based on both theories, if students feel excessively fatigued, they may attempt to escape negative "urge-to-leave" feelings. Studies by Mukundan et al. (2012) have shown that intensified ESL courses can also affect students' attention due to fatigue.

Moreover, competitive activities may increase students' stress and anxiety, especially for those with weaker language acquisition abilities (Nurhidayah, 2020). In a competitive environment, students may feel compelled to meet others' expectations or standards rather than learning at their own pace and style. If they perceive their performance to be inferior to others, it may trigger self-doubt and unease. Particularly for students lacking proficiency in language mastery, if they lack good relationships and support from peers, it may exacerbate feelings of isolation and anxiety, thus negatively impacting their learning experience and engagement. Therefore, further optimization and improvement are needed to meet the needs of different students.

In recent years, educators have been committed to using various teaching activity models to promote the process of L2 learning, aiming to enhance student engagement. Eberhard et al. (2023) found that the number of people using Chinese as an L2 has reached 199 million. However, there is limited discussion on student satisfaction and engagement in CSL classroom environments, with some studies evaluating CSL course satisfaction from the perspective of parents (eg,. Sung, 2020). Previous studies by Mohamed & Wei (2017) focused on how technology influences student satisfaction and learning motivation. Similarly, Xu (2021) shares our focus, suggesting that power and control relationships can be intentionally manipulated to enhance participatory learning experiences. This implies that the more rights students have, the more opportunities they have to participate in classroom activities, thereby gaining richer learning experiences.

According to Self-Determination Theory (Ryan & Vansteenkiste, 2023), the perceived level of control over one's behavior is closely related to their motivation and level of engagement. When students have more control and decision-making power, they are more willing to participate in discussions, ask questions, and share ideas (Stefanou et al., 2004). When students feel respected and acknowledged, and are able to engage in learning in their own way, they are more likely to be satisfied with the course content and teaching methods. This positive learning environment fosters students' confidence and sense of responsibility as they rely on their own judgment

and decision-making to manage their learning and solve problems.

Compared to our previous study (Siliang et al., 2024), we further decentralized power to the students. In the previous study, our evaluation methods included self-assessment (20%), peer assessment (30%), and teacher assessment (50%). However, considering that the perception of satisfaction and engagement is based on students' first-person perspective, we decided to completely hand over this evaluation process to student self-assessment. Typically, students in primary school stages have little classroom autonomy, while university classrooms are usually more open, with teachers playing more of a guiding role rather than strict managers. We believe that as students age and mature, they should have more autonomy. Therefore, the SDOA model can adapt flexibly to students of different ages and adjust power distribution according to actual conditions to maintain a balance and effectiveness in educational management.

Additionally, we found that the proportion of male students learning CSL is significantly lower than female students. However, generally, male students perform better than female students in speaking, reading, and writing. After communicating with students after class, we learned that the main motivation for male students to learn Chinese is that their family elders have Chinese ancestry, while female students are more influenced by Chinese superstars. This finding differs from the perspective of Gindi et al. (2019), mainly due to differences in motivation for learning. This further confirms the lasting influence of mother tongue on immigrants, consistent with the views of Ganuza & Hedman (2019).

However, this study also has some limitations. Firstly, there may be uncontrolled external factors affecting the results, such as the aforementioned family environment. Secondly, the research sample may lack representativeness, limiting the generalizability of the study to other regions or grades of university students. Finally, the time span of the study may be limited, unable to comprehensively evaluate the long-term effects of the teaching model on students. In future research, these issues should be further explored to improve the accuracy and reliability of the study.

6. Conclusion

In summary, this study examines the effectiveness of the SODA model in enhancing students' course satisfaction and engagement. Through interviews and data analysis, we found that the SODA model demonstrates significant advantages in educational practice, facilitating students' satisfaction and participation in CSL course content. Participants generally hold a positive attitude towards the SODA model, perceiving it as stimulating interest in learning and enhancing the learning experience. However, there are some potential issues and areas for improvement in teaching activities, such as the intensity of activity scheduling and the competitive nature of certain activities, which may increase students' stress and anxiety. Therefore, further optimization and improvement of teaching activities are needed to meet the needs of different students. Overall, the SODA model offers educators a flexible and effective teaching approach, with the potential to play a significant role in promoting student motivation and engagement.

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