Article

Study on classroom anxiety, self-efficacy, and their relationship among chinese korean language learners

Ruoqi An

Sangmyung University, Seoul 03016, Korea; anruoqi1005@naver.com

Abstract: This study aims to explore the relationship between classroom anxiety and self-efficacy among Chinese Korean language learners and the impact of these variables on learning outcomes. Utilizing a quantitative research approach, the study conducted a questionnaire survey with 300 learners to assess their levels of Korean language learning classroom anxiety and self-efficacy. The questionnaire comprised two parts: one for assessing learning anxiety and the other for self-efficacy. Data were analyzed using descriptive statistical analysis, Pearson correlation coefficients, and multiple regression analysis. The results indicate a significant negative correlation between classroom anxiety and self-efficacy. That is, higher levels of classroom anxiety in Korean language learners correspond to lower levels of self-efficacy. Additionally, self-efficacy played a partial mediating role between classroom anxiety and learning outcomes. The study also found that teaching strategies offering positive feedback and encouragement can effectively reduce learners' classroom anxiety and enhance their self-efficacy, thereby improving learning outcomes. This research is significant for understanding the psychological characteristics of Chinese Korean language learners and their impact on the learning process. The findings underscore the need to focus on learners' psychological states in language teaching and provide strategies for teachers on how to improve teaching effectiveness by alleviating classroom anxiety and enhancing self-efficacy.

Keywords: Chinese Korean language learners; classroom anxiety; self-efficacy; language learning; teaching strategies

1. Introduction

In the context of globalization, language learning has become an important bridge for connecting different cultures and facilitating international exchanges. Korean, as one of the significant languages in the East Asian cultural sphere, has received widespread attention and enthusiasm for learning in China in recent years. With the increasing number of learners, the study of psychological factors during the language learning process has gained more attention. Classroom anxiety and self-efficacy, as significant psychological factors affecting learning outcomes, have not been fully explored in the process of learning Korean. Understanding and exploring the relationship between classroom anxiety and self-efficacy among Chinese Korean language learners is crucial for optimizing teaching strategies and improving teaching quality(Amengual-Pizarro, 2018). By analyzing the interaction of these two psychological states, teachers can better understand learners' learning needs, take effective measures to reduce learners' anxiety, enhance their learning confidence, and thus promote the positivity and effectiveness of Korean language learning. This study aims to explore the current state of classroom anxiety and self-efficacy among Chinese Korean language learners, analyze the relationship between the two, and how they jointly affect Korean language learning outcomes. Through this research, we hope to

provide an empirical basis for Korean language education, helping teachers and educators understand learners' psychological states, thereby designing more effective teaching methods and strategies(Baik, J et al.,2017). This study will focus on the following key questions:

- What is the prevalence and degree of classroom anxiety among Chinese Korean language learners during their learning process?
- What is the level of self-efficacy among Chinese Korean language learners, and how does it affect their learning performance?
- What is the relationship between classroom anxiety and self-efficacy?

How can teaching strategies effectively reduce learners' classroom anxiety and enhance their self-efficacy to optimize learning outcomes?

By exploring and researching these questions, this paper aims to deeply understand the psychological characteristics of Chinese Korean language learners and their impact on the learning process, providing theoretical and practical support for improving the effectiveness of Korean language teaching.

2. Literature review

2.1. Theories related to classroom anxiety

Classroom anxiety, as a significant psychological factor affecting language learning, especially among Korean language learners, has been extensively studied by numerous scholars. This section reviews theories, models, and prior research related to learners' classroom anxiety to reveal its nature, sources, effects, and possible mitigation strategies. The theory of Foreign Language Anxiety was f introduced by Lee and Kwon (2015), highlighting that this type of anxiety is a unique emotional response in the process of learning a foreign language, including communication apprehension, test anxiety, and fear of negative evaluation (Besher Albeshe et al., 2018). As shown in **Table 1**, the Foreign Language Classroom Anxiety Scale (FLCAS) they developed is widely used to quantify learners' anxiety levels.

Table 1. Foreign Language Classroom Anxiety Scale (FLCAS).

Item No.	Description	Response type
1	I feel nervous abou t learning a foreign language as much as other learners do.	Strongly agree to strongly disagree
2	I feel relaxed about attending foreign language classes.	Strongly agree to strongly disagree
3	I worry about performing worse than other learners in foreign language class.	Strongly agree to strongly disagree
4	I feel at ease learning a foreign language.	Strongly agree to strongly disagree
5	I think other learners are progressing faster in foreign language learning than I am.	Strongly agree to strongly disagree
6	Even when I'm well prepared, I worry about my foreign language exams.	Strongly agree to strongly disagree
7	I'm afraid of making mistakes when speaking in a foreign language class.	Strongly agree to strongly disagree
8	I dislike it when the foreign language teacher asks me questions.	Strongly agree to strongly disagree

Table 1. (*Continued*).

Item No.	Description	Response type
9	I always think that other learners speak the foreign language better than I do.	Strongly agree to strongly disagree
10	I feel very confident speaking the foreign language.	Strongly agree to strongly disagree
...	...	...
31	I'm afraid of the teacher testing us in the foreign language in class.	Strongly agree to strongly disagree
32	I dislike answering questions in the foreign language.	Strongly agree to strongly disagree
33	I feel very anxious in foreign language classes.	I feel very anxious in foreign language classes.

The structural model of cognitive load.

Cognitive Load Theory (CLT) focuses on the load on the cognitive system during the learning process (Botes et al., 2022). In the context of language learning, this model helps explain why classroom anxiety can significantly affect learning efficiency. According to Djumingin (2019), cognitive load is divided into three types: intrinsic load, related to the complexity of the learning material; extraneous load, related to the way the learning material is presented; and germane load, involving the cognitive effort of actively processing information, such as integrating and restructuring information to form new knowledge structures. Anxiety, as an emotional state, can affect learning by increasing extraneous load (e.g., worry about performance or fear of making mistakes) and interfering with germane load (by occupying limited cognitive resources). Classroom anxiety might lead learners to focus excessively on their emotional responses rather than on the learning content itself, thus reducing the efficiency of information processing and language acquisition (Sadeghi et al., 2013).
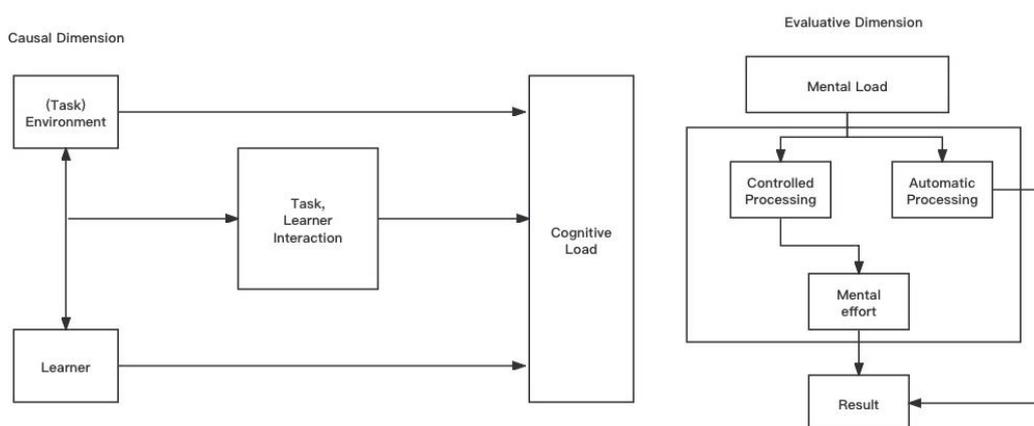

Figure 1. The structure of the cognitive load model.

As shown in **Figure 1**, Understanding the structural model of cognitive load is crucial for designing effective language teaching strategies. Teachers can help learners manage their cognitive resources more effectively by reducing unnecessary extraneous load, adjusting the complexity of the learning material, and encouraging

the use of learning strategies, thereby lowering anxiety and improving language learning efficiency.
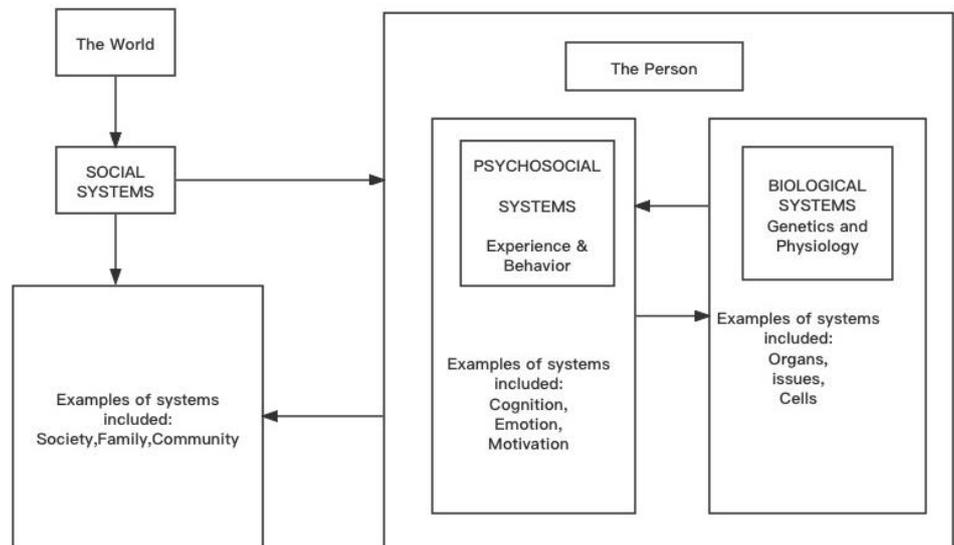

Figure 2. Psychosocial model.

As shown in **Figure 2**, The socio-psychological model views learners' anxiety as a multidimensional phenomenon influenced by various socio-psychological factors. According to studies by Kate and Li, these factors include, but are not limited to, individual differences, classroom atmosphere, teacher behavior, and peer interaction (Higham and Demkowicz, 2021).

Individual differences: Factors such as personality, self-esteem, previous learning experiences, and sense of achievement can affect how learners perceive and react to the learning environment. For example, introverted or low self-esteem learners may be more prone to anxiety.

Classroom atmosphere: A supportive and encouraging classroom environment can reduce learners' anxiety, while a competitive or overly strict environment may increase it.

Teacher behavior: The teaching style, feedback methods, and interaction with learners significantly impact learners' anxiety levels. Positive, inclusive teacher behavior helps reduce anxiety.

Peer interaction: The nature of relationships and interactions with classmates also affects learners' anxiety levels. Positive peer support can increase learners' confidence and comfort, reducing anxiety.

The socio-psychological model emphasizes that anxiety is not just an internal psychological state of the learner but also a product of social interaction and environmental influences. Understanding and improving these socio-psychological factors can effectively reduce learners' anxiety levels, thereby promoting more effective language learning. For instance, teachers can create a more positive, inclusive classroom environment, encourage positive peer interactions, and adopt individualized teaching strategies to meet the needs of different learners, thus helping learners cope with and manage anxiety in learning. Through this review of theories and research, it becomes evident that classroom anxiety is a complex phenomenon

influenced by various factors, including personal traits, the teaching environment, and socio-psychological elements. Understanding these theories and research findings is crucial for designing effective teaching strategies and interventions to alleviate learners' classroom anxiety and enhance language learning efficiency. Teachers can apply these insights by adopting strategies that minimize the sources of anxiety in the learning environment. This includes creating a classroom atmosphere that fosters openness and mutual respect, using teaching methods that are clear and accommodating of different learning styles, and encouraging a culture where mistakes are viewed as learning opportunities rather than failures. Furthermore, integrating techniques that promote self-efficacy among learners—such as setting achievable goals, providing constructive feedback, and celebrating small successes—can mitigate the negative impacts of anxiety on language learning (Kim and Kim, 2018).

Moreover, recognizing the role of cognitive load in learning, educators should strive to balance the intrinsic and extraneous cognitive demands placed on learners. This involves simplifying complex information where possible, presenting material in a coherent and organized manner, and employing teaching aids and examples that facilitate understanding without overwhelming the learner. In the realm of socio-psychological influences, fostering a supportive community within the classroom can significantly reduce anxiety levels. This includes promoting positive peer interactions, developing a rapport between teachers and learners, and creating a learning environment that values diversity and individual contributions. Teachers can also provide opportunities for learners to reflect on their learning process, set personal goals, and engage in self-assessment to enhance their autonomy and confidence in their language abilities (Lee and Kwon, 2015).

In summary, addressing classroom anxiety requires a multifaceted approach that considers the cognitive, emotional, and social dimensions of learning. By implementing strategies informed by the theories and research discussed, educators can create a more conducive learning environment that not only reduces anxiety but also enhances the overall effectiveness of language teaching and learning. This comprehensive approach to understanding and mitigating classroom anxiety has the potential to significantly improve language acquisition outcomes for learners, making the learning process more enjoyable and rewarding for both learners and teachers alike.

2.2. Theories related to self-efficacy

Self-efficacy, As shown in **Figure 3**, first introduced by psychologist Albert Bandura in 1977, refers to an individual's confidence in their ability to successfully perform behaviors to produce desired outcomes (Liao and Wang, 2015). This belief affects individuals' thought patterns, emotional responses, and choice of actions. The theoretical foundation of self-efficacy stems from Bandura's social cognitive theory, which emphasizes the interaction between cognition, behavior, and the environment. Bandura proposed that self-efficacy is a core element in this dynamic interaction process, determining how individuals perceive challenges, mobilize resources, and their persistence. Application studies in the field of language learning have shown that learners with high self-efficacy are more likely to adopt effective learning strategies, face learning challenges persistently, and achieve better learning outcomes. Self-

efficacy affects learners' goal setting, effort levels, and reactions to failures (Liu, 2022).
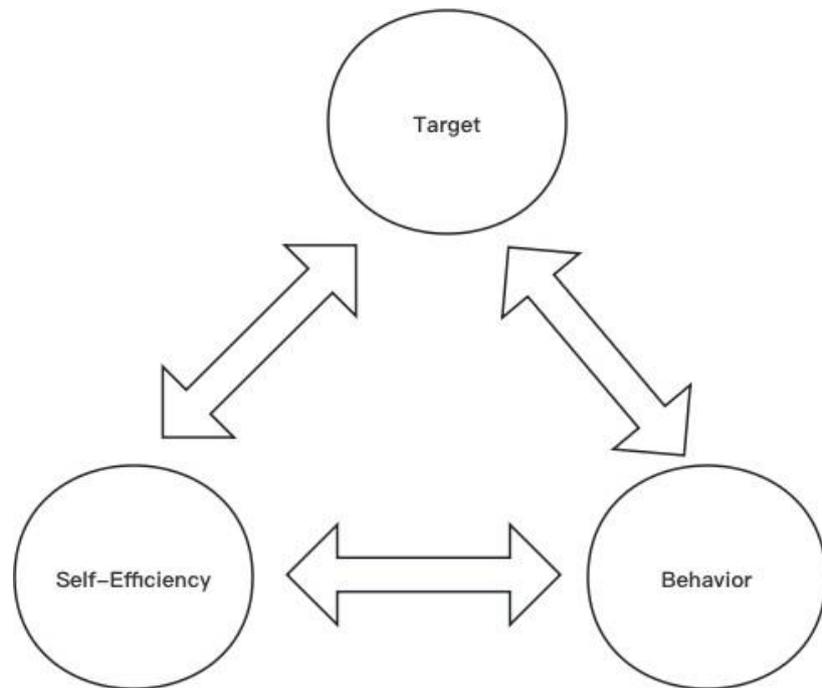

Figure 3. Self-efficacy theory.

Research also indicates that self-efficacy in language learning can be enhanced through various means, including successful learning experiences, modeling or observing others' successes, verbal persuasion, and managing emotional states. Teachers play a key role in this process, significantly boosting learners' self-efficacy by providing appropriate feedback, setting realistic goals, and establishing a supportive learning environment. In summary, self-efficacy is not only a crucial psychological variable in the individual learning process but also a key factor in educational practice to improve learning outcomes. In the field of language learning, understanding and enhancing self-efficacy is vital for fostering learners' active participation, persistence, and ultimately, learning achievement.

2.3. The relationship between classroom anxiety and self-efficacy

Research in the existing literature on the relationship between classroom anxiety and self-efficacy suggests that these two psychological constructs interact in the language learning process, often showing a negative correlation, i.e., As shown in **Figure 4**，learners with high self-efficacy tend to experience lower classroom anxiety and vice versa. A series of studies have indicated that learners with strong self-efficacy are more effective in using language learning strategies, more confident in facing learning challenges, and thus experience less classroom anxiety, as suggested by researchers such as Marashi and Assgar (2019). Conversely, when learners feel anxious, they may doubt their abilities, reducing their self-efficacy, impacting learning motivation and outcomes, as seen in studies by Sulastriningsih and Sukardi (2019).
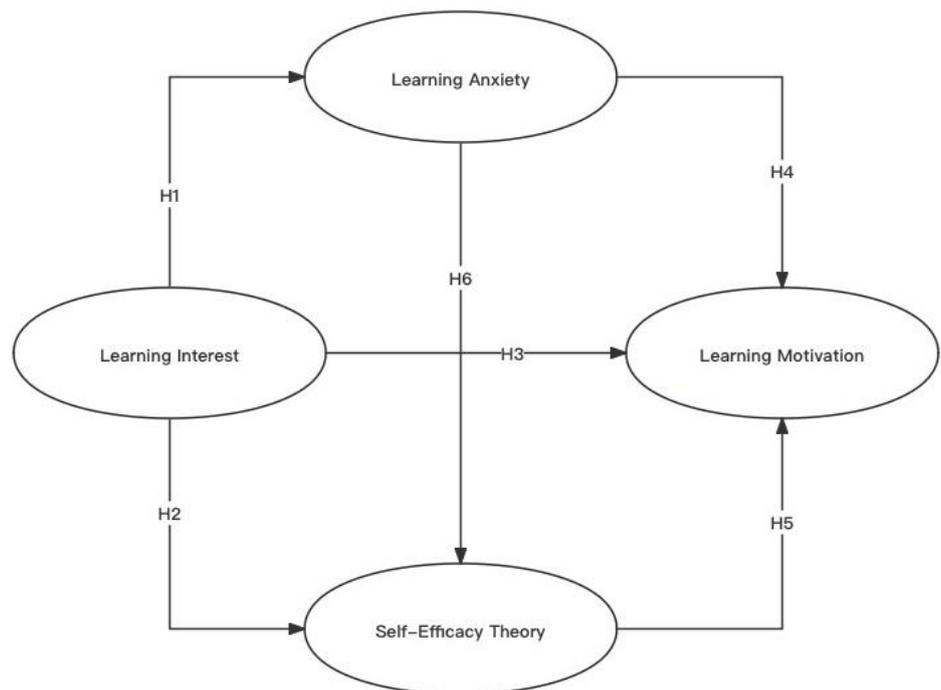
Figure 4. Relationship between classroom anxiety and self-efficacy.

Some studies have shown that reducing classroom anxiety and enhancing self-efficacy can be achieved through strategies like positive feedback from teachers and cooperative learning, thereby improving language learning outcomes, as indicated by Khaled (2018). According to social cognitive theory, self-efficacy not only affects individuals' learning choices, goal setting, and persistence but also influences how they interpret and respond to difficulties and challenges in the learning process. Learners with high self-efficacy are more likely to see challenges as surmountable, rather than feeling anxious and helpless (Liu, 2021).

Moreover, classroom anxiety might indirectly lower self-efficacy by affecting individuals' cognitive load and attention distribution, as learners might allocate limited cognitive resources to feelings of anxiety rather than the learning activity itself. These research findings emphasize the importance of concurrently focusing on learners' classroom anxiety and self-efficacy in language teaching practices. By strategically reducing learners' anxiety and enhancing their self-efficacy, teachers can effectively boost their language learning motivation, engagement, and outcomes. This can be achieved by creating a positive classroom atmosphere, providing effective feedback, and encouraging learners to set achievable goals. In summary, the relationship between classroom anxiety and self-efficacy is complex and interrelated. Understanding this relationship is crucial for designing effective language teaching strategies and interventions to promote overall learning outcomes for learners.

3. Research methodology

3.1. Research design

This study employs a mixed-methods research design to integrate the advantages of both quantitative and qualitative research, aiming to thoroughly explore the

relationship between classroom anxiety, self-efficacy, and learning outcomes among Chinese Korean language learners. The design facilitates a deep understanding of learners' psychological states and behavioral patterns from various perspectives, offering a more in-depth and comprehensive analysis. The quantitative component of this study is executed through a cross-sectional survey design, where data are collected through online and paper questionnaires from the target sample group in a one-time survey. This method efficiently captures a broad spectrum of data at a specific point in time, providing a snapshot of the current state of classroom anxiety, self-efficacy, and learning outcomes. The questionnaire includes three main sections: the Foreign Language Classroom Anxiety Scale (FLCAS), a self-efficacy scale, and a self-assessment of Korean language learning outcomes, all of which will undergo appropriate cultural adjustments and pre-testing to ensure their applicability and validity within the target population. While the cross-sectional approach offers significant practical benefits in terms of simplicity and cost-effectiveness, it also introduces certain limitations, particularly its inability to capture changes and developments in psychological constructs over time. These limitations could affect the generalizability of the findings and may not adequately reflect the dynamic nature of classroom anxiety and self-efficacy as they evolve throughout the language learning process. To address these constraints, future studies could benefit from incorporating a longitudinal design that would allow for the examination of these constructs over time, providing insights into their developmental trajectories and the long-term effects of various educational interventions. Such a design would enable researchers to observe the causal relationships between classroom anxiety, self-efficacy, and learning outcomes more effectively. The qualitative component of this research utilizes semi-structured interviews to gain deeper insights into learners' personal feelings, experiences, and perceptions related to classroom anxiety and self-efficacy. These interviews delve into the learners' learning experiences, challenges faced, coping strategies, and feelings towards the teaching environment. Representative cases will be selected from the learners who participated in the quantitative part of the study, with particular attention paid to those displaying extreme levels of anxiety/self-efficacy or significant differences in learning outcomes. Interview recordings will be transcribed and analyzed using qualitative analysis software like NVivo to identify deep themes and patterns that elucidate the interplay between these psychological constructs and their impact on learning outcomes. By employing this mixed-methods design, the study not only quantitatively reveals the relationships between classroom anxiety, self-efficacy, and learning outcomes but also qualitatively understands the underlying motives and contexts. This comprehensive approach is instrumental in providing scientific and empirical support for the development of improved Korean language teaching strategies and psychological interventions for learners (Madonsela, 2015).

3.2. Data collection and tools

The study utilized three main instruments for data collection: the Foreign Language Classroom Anxiety Scale (FLCAS), a Self-efficacy Scale tailored according to Bandura's guidelines, and the Korean Learning Effectiveness Assessment

Questionnaire. The FLCAS consists of 33 items that assess various dimensions of anxiety related to learning a foreign language, including communication apprehension, test anxiety, and fear of negative evaluation. The Self-efficacy Scale comprises 20 items that measure learners' confidence in their ability to successfully perform Korean language learning tasks such as grammar mastery, vocabulary retention, and oral communication skills. The Korean Learning Effectiveness Assessment Questionnaire, with its 10 items, evaluates learners' self-assessment of their skills in listening, speaking, reading, and writing, along with their ability to apply these skills effectively.

To ensure a detailed capture of the learners' emotions and perceptions, all tools were designed using a five-point Likert scale. Given the reliance on self-reported data, measures were put in place to mitigate inherent biases such as social desirability and recall bias. Ensuring anonymity was crucial in addressing social desirability bias, helping participants to respond honestly without the pressure to conform to perceived favorable responses. To counteract recall bias, questions were specifically designed to prompt detailed and specific responses rather than general recollections, thereby encouraging accuracy in reporting past and present experiences. The questionnaire's design focused on simplicity, clarity, and relevance to enhance response rates and data quality. A brief guide preceded the questionnaire to help learners understand the purpose of the study and the importance of their accurate and honest responses (Maher and King, 2023).

Table 2. Sample data table.

Student number	Gender	Foreign language classroom anxiety score (maximum 99)	Self-efficacy score (maximum 100)	Learning effectiveness score (max. 100)	Self-evaluation of oral expression	Vocabulary self-assessment
001	male	67	82	75	70	80
002	female	73	75	80	75	82
003	male	58	88	72	68	83
004	femal	80	70	74	79	65
005	femal	69	72	68	75	76
006	male	50	65	78	76	72
...	...	...	...	...	...	...
300	femal	72	78	67	83	65

The **Table 2** illustrates the empirical data collected, showcasing classroom anxiety scores, self-efficacy scores, learning effectiveness scores, and self-rated language skills among the participants. This data is pivotal as it directly reflects the relationship between learners' psychological states—classroom anxiety and self-efficacy—and their learning outcomes (Marashi and Assgar, 2019).

The data from **Table 2,** and additional analyses, provide a foundation for identifying statistical associations between classroom anxiety, self-efficacy, and learning outcomes, further discussed in the analysis sections of the study. The interview guide was developed to encourage open-ended responses, allowing learners to share personal experiences and reflections on classroom anxiety and self-efficacy. These interviews are instrumental in revealing the qualitative dynamics of how specific learning scenarios or teaching methods affect learners' mental states and

efficacy. This qualitative data complements the quantitative findings from the surveys, providing a more comprehensive understanding of the factors influencing language learning effectiveness. Through these combined quantitative and qualitative approaches, this study comprehensively evaluates the complex interplay between classroom anxiety, self-efficacy, and learning outcomes, thereby providing a robust empirical basis for developing effective teaching strategies and psychological interventions (Nuypukiaw and Chompurach, 2023).

3.3. Data analysis methods

This study will use a two-stage method for data analysis: first, analyzing the questionnaire data through statistical analysis methods, and then, processing the interview data using a qualitative analysis framework.

Linear Regression Analysis:

Objective: To quantify the impact of classroom anxiety and self-efficacy on learning outcomes and explore the interrelationships among these variables.

Model: A linear regression model will be used to analyze the predictive power of classroom anxiety and self-efficacy on learning outcomes (e.g., grades, self-evaluated language skills). The model formula can be represented as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon \tag{1}$$

where Y represents the measure of learning outcomes, X_1 represents classroom anxiety scores, X_2 represents self-efficacy scores, β_0 is the intercept, β_1 and β_2 are the coefficients for the impact of classroom anxiety and self-efficacy on learning outcomes respectively, and ϵ is the error term.

Execution steps:

a) Data preparation: Ensure that the data is clean, no missing values, and necessary variable conversion.

b) Model estimation: SPSS or R software was used for linear regression analysis to estimate model parameters.

c) Interpretation of results: The significance of regression coefficient was analyzed to explain the specific impact of classroom anxiety and self-efficacy on learning outcomes.

Qualitative analysis framework:

Objective: To gain an in-depth understanding and explanation of the reasons behind the results of quantitative analysis and how learners perceive and experience classroom anxiety and self-efficacy.

Methods: Content analysis and topic analysis were used to extract and analyze topics from interview data.

Execution steps:

a) Data collation: transcribed interview recordings into text.

b) Coding process: Preliminary coding of data to identify key concepts and categories in the data.

c) Theme extraction: According to the preliminary coding, summarize and refine the theme to ensure the correspondence between the theme and the research question.

d) Presentation of results: Present analysis results and explain the relationship between topics in combination with specific quotes and examples.

Through this analytical strategy combining quantitative and qualitative methods, this study can not only reveal the statistical relationship between classroom anxiety, self-efficacy and learning outcomes, but also provide insight into the underlying reasons behind these relationships. This comprehensive analytical approach will enrich and comprehensive the research results and help to develop more effective educational interventions to improve the learning outcomes of language learners. Through the application of linear regression models, the impact of different psychological variables on learning outcomes can be quantified, while qualitative analysis complements the in-depth interpretation of these statistical results, revealing how learners' personal experiences, perceptions, and strategies affect their learning processes and outcomes. Such an analytical framework provides a powerful tool for understanding and addressing psychological barriers in language learning (Park, 2014).

4. Research results

4.1. Data analysis results

Firstly, regarding descriptive statistical analysis, we conducted descriptive statistics on classroom anxiety, self-efficacy, and learning outcomes, with the results shown in the **Table 3** below:

Table 3. Descriptive statistical analysis results.

Variable	Average	Standard deviation	Minimum	Maximum
Classroom anxiety score	68.5	8.2	50	85
Self-Efficacy score	79.3	10.5	60	100
Learning outcome score	77.2	9.1	60	95

These results indicate that learners in the sample exhibit some variability in classroom anxiety, relatively high self-efficacy, and good performance in learning outcomes. In terms of correlation analysis, we further conducted an analysis of the relationships between classroom anxiety, self-efficacy, and learning outcomes, with the results as shown in the **Table 4**:

Table 4. Correlation analysis results.

Variable pair	Pearson correlation coefficient	Significance level
Classroom anxiety and self-efficacy	−0.47	<0.01
Classroom anxiety and learning outcomes	−0.52	<0.01
Self-Efficacy and learning outcomes	0.61	<0.01

The correlation analysis shows that classroom anxiety is significantly negatively correlated with both self-efficacy and learning outcomes, while self-efficacy is significantly positively correlated with learning outcomes. Regarding regression analysis, we utilized multiple linear regression analysis to explore the impact of

classroom anxiety and self-efficacy on learning outcomes. The results of the regression model are as shown in the **Table 5**:

Table 5. Regression model results.

Variable	Regression coefficient (β)	Standard error	*t*-value	Significance level
Constant	20.5	2.8	7.32	<0.001
Classroom anxiety	−0.25	0.05	−5.00	<0.001
Self-Efficacy	0.45	0.04	11.25	<0.001

The overall explanatory power of the model is 0.62, indicating that classroom anxiety and self-efficacy together explain 62% of the variability in learning outcomes. The regression analysis results demonstrate that classroom anxiety has a significant negative effect on learning outcomes, whereas self-efficacy has a significant positive effect (Pérez Castill, 2021). These analysis results support the research hypothesis that classroom anxiety is negatively correlated with learning outcomes, while self-efficacy is positively correlated. Moreover, the multiple linear regression analysis reveals that classroom anxiety and self-efficacy are important factors affecting learning outcomes. These findings provide a basis for designing targeted teaching strategies and psychological interventions aimed at reducing learners' classroom anxiety and enhancing their self-efficacy to improve learning outcomes.

4.2. Interpretation of results

The data analysis results reveal a significant negative relationship between classroom anxiety and self-efficacy, meaning that as classroom anxiety levels increase, learners' levels of self-efficacy tend to decrease. This finding aligns with the discussions on self-efficacy in social cognitive theory, where an individual's confidence in their abilities is affected by their emotional states. As a negative emotional state, classroom anxiety may undermine learners' confidence in successfully completing specific learning tasks, thereby lowering their self-efficacy. The results of the multiple linear regression analysis show that classroom anxiety significantly negatively impacts learning outcomes, while self-efficacy has a significant positive impact. These results further support the impact of the relationship between classroom anxiety and self-efficacy on learning outcomes. Specifically, high classroom anxiety may reduce learning outcomes by consuming learners' cognitive resources, distracting their attention, and affecting their motivation and engagement. Conversely, learners with high self-efficacy are more likely to maintain a positive learning attitude, adopt effective learning strategies, and face learning challenges persistently, thereby achieving better learning outcomes. These research findings have significant implications for educational practice. Firstly, they emphasize the role of teachers in reducing learners' classroom anxiety and enhancing their self-efficacy (Sato and Koga, 2012). For example, teachers can help learners build confidence in their learning abilities by providing positive feedback, setting achievable learning goals, and encouraging cooperative learning among learners, thereby reducing classroom anxiety and improving learning outcomes. Additionally, these findings prompt schools and educational policymakers to pay attention to the design of learning

environments and teaching methods to create a supportive and positive learning atmosphere that promotes learners' psychological well-being and academic achievement. In summary, the research results unveil the significant relationship between classroom anxiety and self-efficacy and their impact on learning outcomes, offering important perspectives for understanding the psychological dynamics in the learning process and providing empirical support for optimizing teaching strategies and enhancing learning effectiveness (Shtembari et al., 2023).

5. Discussion

5.1. Research findings

The exploration of the intricate dynamics between classroom anxiety, self-efficacy, and learning outcomes in this study sheds light on the psychological underpinnings that influence language learning. The significant negative correlation between classroom anxiety and self-efficacy is particularly revealing, suggesting that as learners experience increased anxiety, their confidence in their abilities diminishes. This interplay of emotional and cognitive factors is critical in understanding learners' experiences and performance in educational settings (Shu, 2023).

Delving deeper into the effects of classroom anxiety on learning outcomes, it becomes evident that anxiety acts as a barrier to effective learning and achievement. Anxiety can divert learners' attention away from learning activities, consume cognitive resources, and diminish motivation, leading to poorer academic performance. This underscores the necessity for educators to cultivate an environment that minimizes stressors and fosters a sense of safety and encouragement. Techniques such as mindfulness training, stress management workshops, and the integration of relaxation exercises into the curriculum could serve as effective interventions to mitigate anxiety levels among learners. Conversely, the positive relationship between self-efficacy and learning outcomes highlights the transformative power of belief in one's abilities. Learners who possess a strong sense of self-efficacy are more likely to engage deeply with learning materials, employ effective learning strategies, and persevere in the face of challenges. This finding calls for educational practices that build self-efficacy, such as mastery experiences, vicarious experiences through peer modeling, and the cultivation of a growth mindset. Educators can enhance self-efficacy by celebrating small successes, providing constructive feedback, and encouraging learners to set and achieve personal learning goals.

The implications of these findings extend beyond the classroom, suggesting that psychological support and interventions should be integral components of educational programs. Schools and language institutes could benefit from collaborating with psychologists and counselors to develop comprehensive support systems that address both the emotional and cognitive needs of learners. Such collaborative efforts could include training for teachers on psychological principles, development of peer support groups, and the establishment of a learning community that values emotional well-being as much as academic success. Looking to the future, the challenge remains to further dissect the nuances of the relationship between classroom anxiety, self-efficacy, and learning outcomes. Investigating the impact of different instructional designs, classroom management techniques, and teacher-student interactions on these

psychological constructs could offer valuable insights. Additionally, longitudinal studies tracking these dynamics over time could illuminate how these relationships evolve as learners progress through their educational journeys (Sohrabi and Ahmadi Safa, 2020).

In conclusion, this study contributes to a growing body of research emphasizing the critical role of psychological factors in educational achievement. By highlighting the negative impact of classroom anxiety and the positive influence of self-efficacy on learning outcomes, it provides a compelling case for the integration of psychological insights into language teaching and learning practices. As educators and researchers continue to unravel these complex relationships, the ultimate goal remains to enhance the educational experience and success of language learners worldwide.

5.2. Theoretical and practical implications

The findings of this study significantly contribute to the realms of educational psychology and language instruction, effectively bridging the gap between theoretical frameworks and practical application. The demonstrated negative correlation between classroom anxiety and self-efficacy within the context of language learning not only reaffirms the applicability of social cognitive theory but also extends our understanding of how emotional states influence self-beliefs in educational settings. This relationship illustrates the complex interplay between cognition and emotion, shedding light on the psychological mechanisms that underpin learning outcomes. Social cognitive theory traditionally posits that self-efficacy is cultivated through mastery experiences, social modeling, and social persuasion, which can be undermined by high levels of anxiety. However, this study prompts a reevaluation of these mechanisms in language learning contexts, suggesting that anxiety not only reduces self-efficacy through direct psychological impacts but also by altering engagement and cognitive resource allocation. Recent advances in cognitive psychology offer insights into this process, revealing that anxiety can overload cognitive bandwidth, thus impeding information processing and retention, which are critical for language acquisition. Additionally, integrating motivation theory, specifically Self-Determination Theory (SDT), enriches our understanding of these dynamics. SDT suggests that self-efficacy enhances intrinsic motivation by fulfilling learners' needs for competence, autonomy, and relatedness. Conversely, classroom anxiety might thwart these needs, leading to diminished motivation and poorer educational outcomes. The interaction of these theories with empirical findings from this study underscores the need for educational strategies that not only reduce anxiety but also actively foster self-efficacy and intrinsic motivation. From a socio-cultural perspective, this study acknowledges the role of environmental and cultural contexts in shaping the psychological experiences of learners. Educational environments that value diversity, promote inclusion, and provide adaptive challenges are likely to enhance self-efficacy and reduce anxiety, supporting learners' psychological well-being and academic achievement. Recent literature emphasizes the importance of culturally responsive teaching practices that recognize and integrate learners' cultural backgrounds into the educational process, thus promoting better engagement and reducing cultural sources of anxiety. Practically, the implications of this study are

manifold. It underscores the necessity for educators to adopt dynamic, empathetic teaching approaches such as group discussions, role-playing, and peer teaching, which not only make learning more engaging but also build a supportive community. This approach aligns with the theoretical insights suggesting that such methods can significantly reduce anxiety and enhance self-efficacy among learners. Moreover, personalized learning support and interventions designed around the unique psychological profiles of learners can address specific challenges related to anxiety and self-efficacy, thereby optimizing educational outcomes. The study also highlights the importance of considering environmental and cultural factors in designing educational spaces that encourage positive learning experiences. By creating environments that celebrate effort and accommodate failure, educators can cultivate a learning atmosphere that supports both emotional well-being and academic success. In conclusion, this study offers a robust theoretical and practical framework for integrating psychological insights into language education. By addressing the intricate psychological dimensions of learning, such as emotional states and self-efficacy, and adapting educational practices to these insights, educators can significantly enhance both the effectiveness of language teaching and the overall educational experience. This holistic approach is not only beneficial but essential for fostering resilient, confident, and capable learners in today's diverse and dynamic educational landscapes.

5.3. Limitations and future research directions

Despite providing important insights into the relationships between classroom anxiety, self-efficacy, and learning outcomes, this study has limitations that future research needs to address.

Research limitations.

a) Sample Scope and Representativeness: This study primarily targeted Korean language learners in China, which may not fully represent the diversity of all language learners. Learners from different cultural backgrounds and educational systems might exhibit different characteristics of anxiety and self-efficacy.

b) Data Collection Methods: Although this study employed a mixed-methods approach, the data relied heavily on self-reported questionnaires and interviews, which may be subject to learners' subjectivity. Future research could consider incorporating more objective measurement tools.

c) Cross-sectional Study Design: The cross-sectional design used in this study limits our ability to understand the changes in classroom anxiety and self-efficacy over time. Longitudinal studies could provide deeper insights, especially regarding how these psychological states develop and change throughout the learning process.

Future research directions.

a) Cross-cultural Comparative Studies: Future research could extend to learners in different cultural and educational backgrounds to explore how cultural factors influence the relationships between classroom anxiety, self-efficacy, and learning outcomes.

b) Longitudinal Studies: Through longitudinal study designs, future research could better understand the patterns of change in classroom anxiety and self-efficacy over time and how they impact the long-term development of learning outcomes.

c) Intervention Studies: Given the theoretical and practical significance of the findings from this study, future research could design, implement, and evaluate specific interventions aimed at reducing classroom anxiety and enhancing self-efficacy to verify the effectiveness of these interventions.

d) Exploring Additional Related Variables: Future studies could explore other variables beyond classroom anxiety and self-efficacy, such as learning strategies, teacher support, peer interaction, etc., and how these factors interact with Learning outcomes.

In conclusion, while this study provides valuable insights into the relationships among classroom anxiety, self-efficacy, and learning outcomes, there are several limitations that future research needs to overcome. These limitations also highlight multiple potential directions for future research, which could further deepen our understanding of the psychological dynamics in the language learning process and provide more guidance for improving educational practice outcomes.

6. Conclusion

This study, utilizing a mixed-methods approach, explored the relationship between classroom anxiety and self-efficacy among Korean language learners in various educational settings in China and their impact on learning outcomes. The results revealed a significant negative correlation between classroom anxiety and self-efficacy and different impacts of these two variables on learning outcomes: negative effects from classroom anxiety and positive effects from self-efficacy. These findings underscore the importance of managing learners' emotions and enhancing their self-efficacy in language teaching, providing practical guidance for educators in reducing learners' anxiety and boosting their self-efficacy. Although this study offers valuable insights into the psychological dynamics of the language learning process, its limitations in sample scope and data collection methods also point out directions for future research, including exploring the roles of these psychological variables in a broader cultural context, adopting longitudinal designs, and conducting intervention studies to verify strategies for improving learning outcomes. In summary, this study enriches the theoretical knowledge of educational psychology and provides important guidance for enhancing the effectiveness of language teaching practices and learners' psychological well-being.

Conflict of interest: The author declares no conflict of interest.

References

Amengual-Pizarro, M. (2018). Foreign language classroom anxiety among English for Specific purposes (ESP) students. International Journal of English Studies, 18(2), 145–159. https://doi.org/10.6018//ijes/2018/2/323311

Baik, J., Kim, Y., Lee, S., et al. (2017). Cognitive Factors and Spoken Syntactic Development of L2 Korean Learners: Regularities and Variations. Korean Journal of Applied Linguistics, 33(2), 107–136. https://doi.org/10.17154/kjal.2017.6.33.2.107

Besher Albesher, K., Sabboor Hussain, M., Farid, A. (2018). Use of Saudi EFL Adult Learners' L1 to Address Foreign Language Classroom Anxiety. Arab World English Journal, 9(2), 379–396. https://doi.org/10.24093/awej/vol9no2.25

Botes, E., Dewaele, J., Greiff, S. (2022). By the Old Gods and the New: The Effect of the Congruence and Incongruence of Foreign Language Classroom Anxiety and Enjoyment on Self-Perceived Proficiency. The Modern Language Journal, 106(4), 784–797. https://doi.org/10.1111/modl.12807

Djumingin, S., Weda, S., Juanda. (2019). Anxiety in Classroom Presentation in Teaching - Learning Interaction in English for Students of Indonesian Study Program at Higher Education. International Journal of Education and Practice, 7(1), 1–9. https://doi.org/10.18488/journal.61.2019.71.1.9

Sadeghi, K. (2013). From EFL Classroom into the Mainstream: A Socio-Cultural Investigation of Speaking Anxiety among Female EFL. Learners.International Journal of Society, Culture and Language, 2013, 1(2): 117-132.

Higham, M., Demkowicz, O. (2021). Secondary school teachers' perceptions of adolescent social anxiety and learning and development in the classroom. British Journal of Special Education, 48(4), 497–518. https://doi.org/10.1111/1467-8578.12391

Kim, H., Kim, G. (2018). Examining the effects of writing prompts on advanced Korean-language learners via the think-aloud protocol. Korean Association for Learner-Centered Curriculum and Instruction, 18(7), 237–257. https://doi.org/10.22251/jlcci.2018.18.7.237

Lee, Kwon, Y. (2015). A Study on Acoustic Characteristics of the Palatalization of Russian Native Speakers and Korean Learners. Issledovanija po slavjanskim jazykam, 20(2), 123-142.

Liao, H. C., Wang, Y. H. (2015). Creating a Positive Learning Environment for Students with English Classroom Anxiety. Psychological Reports, 116(2), 631–646. https://doi.org/10.2466/11.pr0.116k21w8

Liu, L. (2022). The contribution of the flipped learning environment to value perception and controllability of classroom activities as antecedents of learners' anxiety: A control-value approach. Frontiers in Psychology, 13. https://doi.org/10.3389/fpsyg.2022.1000710

Liu, M. (2021). Foreign Language Classroom Anxiety, Gender, Discipline, and English Test Performance: A Cross-lagged Regression Study. The Asia-Pacific Education Researcher, 31(3), 205–215. https://doi.org/10.1007/s40299-020-00550-w

Madonsela, S. (2015). Language anxiety caused by the single mode of instruction in multilingual classrooms: The case of African language learners. Africa Education Review, 12(3), 447–459. https://doi.org/10.1080/18146627.2015.1110910

Maher, K., King, J. (2023). Language anxiety and learner silence in the classroom from a cognitive-behavioral perspective. Annual Review of Applied Linguistics, 43, 105–111. https://doi.org/10.1017/s0267190523000077

Marashi, H., Assgar, F. (2019). EFL Teachers' Effective Classroom Management and Learners' Anxiety and Learning Strategies. Iranian Journal of Language Teaching Research, 2019, 7(2): 65-82.

Nuypukiaw, S., Chompurach, W. (2023). On-site and Online Classroom Activities and Thai EFL Learners' Language Anxiety before and during the COVID-19 Pandemic. English Language Teaching, 16(10), 21. https://doi.org/10.5539/elt.v16n10p21

Park, G. P. (2014). Factor Analysis of the Foreign Language Classroom Anxiety Scale in Korean Learners of English as a Foreign Language. Psychological Reports, 115(1), 261–275. https://doi.org/10.2466/28.11.pr0.115c10z2

Pérez Castillejo, S. (2021). Prior processing, foreign language classroom anxiety, and L2 fluency. International Review of Applied Linguistics in Language Teaching, 61(2), 519–544. https://doi.org/10.1515/iral-2021-0091

Sato, R., Koga, T. (2012). Examining the Effects of All English Class on Learnersapos; Affective Aspects: Variations of Willingness to Communicate, Communication Anxiety and Perceived Communication Competence (Practical Reports and Survey Reports, The 41st CELES Conference in Fukui). Journal of the Chubu English Language Education Society, 41(0), 183-190.

Shtembari, A., Lozano, M. G., Forte, P. (2023). Managing foreign language classroom anxiety among French undergraduate students: pedagogical implications and perspectives. International Journal of Management and Decision Making, 22(2), 219. https://doi.org/10.1504/ijmdm.2023.129840

Shu, J. (2023). EFL learners' problematic use of social media usage, classroom anxiety, perfectionism, and language attainment: correlations and perceptions. BMC Psychology, 11(1). https://doi.org/10.1186/s40359-023-01419-5

Sohrabi, S., Ahmadi Safa, M. (2020). Group Dynamic Assessment and EFL Learners' Oral Production, Motivation, and Classroom Anxiety. English Teaching & Learning, 44(4), 353–376. https://doi.org/10.1007/s42321-020-00054-2