The Relationship Between Satisfaction, Self-Confidence, And Group Work in Mandarin Learning

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ABSTRACT

Group work in Mandarin learning, particularly through role-play, is widely practiced but the effects of satisfaction and self-confidence within collaborative contexts remain underexplored. This study addresses this gap by examining their influence on group work among Malaysian undergraduates learning Mandarin as a third language. A quantitative survey of 468 students was conducted using a five-point Likert-scale instrument, which demonstrated strong reliability (Cronbach's alpha .985). T-test results showed no significant differences across gender, but significant relationships emerged for self-confidence by cluster ($p = .043$), and for group work ($p < .001$) and satisfaction ($p = .022$) by mode of study. Correlation analysis revealed strong positive relationships between group work and satisfaction ($r = .721$, $p = .001$), and between group work and self-confidence ($r = .711$, $p < .001$). Findings suggest that role-play group work enhances collaborative problem-solving, peer accountability, and reduces language anxiety, while effective instructor guidance and engaging methodologies increase satisfaction and confidence. The study implies that group work reinforces constructivist principles, fostering both cognitive and affective outcomes, and highlights the importance of integrating strong instructional design with supportive peer interaction to sustain learner engagement in Mandarin learning.

Keywords: Group work, self-confidence, satisfaction, role-play activities, Mandarin learning

INTRODUCTION

Background of Study

In the multicultural and multilingual landscape of higher education in Malaysia, proficiency in Mandarin has increasingly become a highly sought-after asset, driven by strong regional economic ties and global trade. Consequently, Malaysian public and private universities frequently offer Mandarin as a compulsory or elective foreign language course for non-native undergraduate students. To bridge the gap between classroom theory and real-world application, educators heavily rely on communicative language teaching (CLT) methods, primarily group work in Mandarin role-play activities**.** While these collaborative activities are designed to simulate authentic communication, they also introduce complex psychological and interpersonal dynamics among students.

In a language-learning setting, situational simulations recreate environments that closely resemble actual target-language contexts, allowing students to transition from theoretical knowledge to practical application (Fu & Li, 2025). Furthermore, role-play activities transform traditional instruction into a student-centered learning experience. In foreign language classes, which often default to monotonous lecturing, structured cooperative activities, and role plays, there is an emphasis on student engagement, collaborative problem-solving, and peer accountability (Werth, 2018; Yeoh, 2019). Additionally, role plays compel students to develop both strategic and discourse competence (Thornbury, 2011). This topic continues to be highly relevant in the context of

contemporary Malaysian higher education. By understanding how satisfaction and self-confidence influence group work in Mandarin, higher education institutions can better equip students to become effective, multilingual leaders in a highly competitive job market.

There is a critical empirical gap regarding the cyclical, triadic relationship between satisfaction, self-confidence, and groupwork in performance-heavy assignments like role-plays (Razali & Mohd Hatta, 2025; Tengku Azeezeen et al., 2025). While literature separate to these domains demonstrates that group work skills can bolster student self-esteem and confidence (De Prada et al., 2024), and that managed self-confidence can dynamically alter effort and mitigate free-riding during team tasks (Bruhin et al., 2024), how these variables interact cyclically alongside overall satisfaction during experiential, interactive role-plays remains critically under-explored.

By evaluating these interconnected variables simultaneously, this study provides fresh, localized insights that enable educators to design more empathetic, structurally sound collaborative assessments, ultimately maximizing both the psychological well-being and communicative competence of Malaysian undergraduate learners.

Statement of Problem

Group work in role-play activities is widely implemented in second language (L2) classrooms, particularly in Chinese as a Second Language (CSL) or Chinese as a Foreign Language (CFL) contexts, as it provides learners with opportunities to engage in meaningful interaction and collaborative language use. Recent studies have emphasized that online and classroom-based collaborative learning environments can enhance learner engagement and support language development through peer interaction and task-based communication (Zhang et al., 2024; Zhou & Huang, 2023).

Within such environments, learners' satisfaction and self-confidence are important affective factors that influence their participation and learning outcomes. Satisfaction reflects learners' perceived quality of the learning experience, while self-confidence refers to their perceived ability to successfully perform language tasks in group settings. Recent empirical research has shown that positive learning environments, including peer-supported activities, may enhance learners' self-esteem and engagement in L2 contexts (Shaddad & Jember, 2024; Zhang et al., 2024).

However, recent findings regarding the effectiveness of group work in L2 learning remain inconsistent. Some studies report that collaborative learning can enhance learners' enjoyment, confidence, and engagement through social interaction and peer support (Shaddad & Jember, 2024; Zhang et al., 2024). In contrast, other studies indicate that group work may also lead to unequal participation, communication difficulties, and reliance on the first language, which can negatively affect learners' learning satisfaction and reduce meaningful target language output (Zhang et al., 2022; Zhou et al., 2023). These mixed empirical findings in recent literature suggest that the psychological outcomes of group work are context-dependent and not yet fully understood.

Furthermore, although satisfaction and self-confidence have been widely examined in recent second language acquisition studies, they are often treated as independent outcome variables rather than as interrelated constructs within team-based learning environments. Recent research on CSL learners has also highlighted the importance of affective and social factors such as enjoyment, interaction quality, and learner engagement; however, these studies still tend to focus on isolated variables rather than integrated relational models (Shaddad & Jember, 2024; Zhou & Lochtman, 2024).

Therefore, it is necessary to further investigate how affective factors—such as satisfaction and self-confidence—interact within group work settings in Mandarin language learning contexts. Understanding these dynamics is important because group work functions not only as a pedagogical strategy but also as a social and affective environment that shapes learners' emotional, motivational, and behavioral experiences. Accordingly, this study aims to examine the relationships among satisfaction, self-confidence, intergroup relations, passion, and commitment in group work settings among learners of Mandarin as a third language.

Objective of the Study and Research Questions

This study is done to explore influence of satisfaction and self-confidence on group work. Specifically, this study is done to answer the following questions;

- Is there a significant relationship between (a) group work,(b) satisfaction, and (c) self-confidence across gender?
- $H_{o1:}$ There is no significant relationship between (a) group work,(b) satisfaction, and (c) self-confidence across gender
- Is there a significant relationship between (a) group work,(b) satisfaction, and (c) self-confidence across clusters?
- $H_{o2:}$ There is no significant relationship between (a) group work,(b) satisfaction, and (c) self-confidence across clusters
- Is there a significant relationship between (a) group work,(b) satisfaction, and (c) self-confidence across modes of study?
- H_{o3} There is no significant relationship between (a) group work,(b) satisfaction, and (c) self-confidene across modes of study
- How do learners perceive group work?
- How do learners perceive satisfaction in group work?
- How do learners perceive self-confidence in group work?
- Is there a significant relationship between group work and satisfaction?

H_{o4} There is no significant relationship between group work and satisfaction

- Is there a significant relationship between group work and confidence?

H_{o5} There is no significant relationship between group work and confidence

LITERATURE REVIEW

Theoretical Framework of the Study

Theory of Constructivism and Group Work

Constructivism is a learning theory that emphasizes that students actively construct knowledge through experience, interaction, and reflection rather than passively receiving information from teachers (Piaget, 1970; von Glasersfeld, 1989). In a constructivist classroom, group work plays an important role because it encourages learners to share ideas, discuss different perspectives, and solve problems collaboratively (Dewey, 1938; Vygotsky, 1978). Through interaction with peers, students are able to build deeper understanding and develop critical thinking and communication skills (Vygotsky, 1978).

Group Work: Challenges and Benefits

Group work is widely recognized as an effective pedagogical approach that promotes active learning, collaboration, and student engagement by shifting instruction from teacher-centered to student-centered learning environments (Saputro et al., 2021). Through collaborative tasks such as discussion, problem-solving, and knowledge sharing, learners are able to develop teamwork, communication, and interpersonal skills, while also

benefiting from increased attention and participation compared to traditional lecture-based instruction (Alfares, 2017; Hermawan et al., 2024). In addition, group work facilitates deeper learning by enabling peer scaffolding, mutual knowledge construction, and exposure to diverse perspectives, which contribute to both cognitive development and positive classroom interaction (Rahmat & Jon, 2023). It also enhances learners' motivation, self-confidence, and emotional well-being by reducing language anxiety and creating a supportive learning environment where students feel more comfortable expressing ideas (Alfares, 2017).

However, despite these advantages, group work also presents several challenges that may limit its effectiveness. Differences in learning preferences, unequal participation, and mixed-ability group dynamics may lead to frustration, disengagement, or reduced efficiency among learners (Rahmat & Jon, 2023; Alfares, 2017). In language learning contexts, additional barriers such as limited linguistic competence, reliance on the first language, and fear of making mistakes may further hinder meaningful interaction and reduce target language use. Moreover, effective implementation of group work requires significant teacher preparation, classroom management, and instructional scaffolding, which may conflict with exam-oriented teaching priorities (Saputro et al., 2021; Hermawan et al., 2024). Overall, these findings suggest that while group work offers substantial pedagogical benefits, its effectiveness is highly dependent on classroom dynamics and learner psychological factors.

Past Studies on Interactions in Group Work

Many studies have been conducted to investigate how cooperative group work and collaborative interaction affect linguistic performance, learners' psychological states, and social anxiety in foreign language classrooms. These empirical investigations heavily focus on how structured team dynamics can either mitigate foreign language anxiety or enhance communicative competence among non-native speakers.

The study by Xu et al. (2022) was conducted to investigate the critical issues of learning motivation, classroom anxiety, and the specific coping strategies employed by non-native students within Chinese as a Foreign Language (CFL) learning environments. This research deeply explored how the interplay of high speaking anxiety in a tonal language like Mandarin influences how students behave during collaborative learning tasks. The respondents were 198 university undergraduate students enrolled in a Chinese language program. The researchers utilized quantitative measurement tools, specifically employing adapted versions of the Foreign Language Classroom Anxiety Scale (FLCAS) and the Motivated Strategies for Learning Questionnaire (MSLQ). The findings revealed a strong negative correlation between language anxiety and learning outcomes; however, structured peer interactions and communicative learning strategies (such as collaborative group tasks) served as vital coping mechanisms that mitigated this anxiety. The implication of this study is that foreign language educators should not rely on solitary, rote-memorization teaching methods; instead, they must structurally embed interactive group tasks to reduce individual performance anxiety and sustain student motivation.

Next, the study by Rahmat et al. (2021) also looked at classroom interaction through Vygotsky's Zone of Proximal Development (ZPD) to understand how peer scaffolding during group activities alters the language learning experience. This research specifically focused on how structured group work minimizes the psychological distance between a learner's current language level and their potential conversational proficiency. The respondents consisted of 115 non-native university undergraduates taking introductory Mandarin courses at a public higher education institution in Malaysia. The study utilized a descriptive survey instrument comprising a 5-point Likert scale questionnaire to evaluate peer-to-peer interactive dynamics and perceived learning progress. The findings demonstrated that group work drastically reduced the learning gap by facilitating peer-led explanations and mutual correction of tonal pronunciation, which significantly heightened the students' perceived competence and confidence. The implication is that for complex, non-alphabetic languages like Mandarin, peer-led group structures are essential academic interventions that empower weaker students through low-stakes, collaborative peer scaffolding.

In summary, the existing literature convincingly demonstrates that Mandarin learning cannot happen effectively in isolation. Past studies consistently establish that while oral performance in a tonal foreign language naturally creates high psychological anxiety, structured peer-to-peer interaction within group settings acts as a vital

emotional buffer and academic scaffolding tool. When analyzing what these main ideas —The Relationship Between Satisfaction, Self-Confidence, and Group Work—it becomes clear that these variables do not operate in silos. Instead, they form a highly interconnected, self-reinforcing psychological loop. While researchers like Xu et al. (2022) and Rahmat et al. (2021) have proven that group work structurally reduces anxiety and aids language acquisition, Therefore, group work is the structural catalyst that unlocks individual self-confidence. When students are placed in a supportive group environment, their fear of making tonal errors diminishes, causing their linguistic self-confidence to rise. Consequently, this elevated confidence transforms a highly stressful role-play activity into an enjoyable experience, directly culminating in higher task satisfaction. Thus, this study moves beyond merely identifying that group work is beneficial, focusing instead on capturing the precise triadic mechanism where cooperative teamwork directly drives the self-confidence and learner satisfaction engine among Malaysian undergraduates.

Conceptual Framework of the Study

Group work is a widely used learning approach in both traditional and online classroom settings, as it encourages active participation and collaboration among learners. Through group interactions, learners are pushed to develop and enhance their communication skills, while gaining benefits that go beyond mere task completion (Rahmat et al., 2021). Although group work may involve conflicts, such challenges provide valuable opportunities for learners to practice problem-solving skills and strengthen their critical thinking abilities. Furthermore, Studnicka (2023) emphasizes that group interactions contribute positively to learners' satisfaction with the learning process and help build their self-confidence. In addition, Bateman et al. (2002) highlight that group work enables learners to acquire a range of essential skills, including understanding purpose and goals, assuming roles, engaging in team processes, developing team relationships, managing intergroup relations, fostering passion and commitment, and enhancing skills and learning. Based on these perspectives, the present study (refer to Figure 1) explores the relationship between satisfaction and self-confidence in the context of group work.

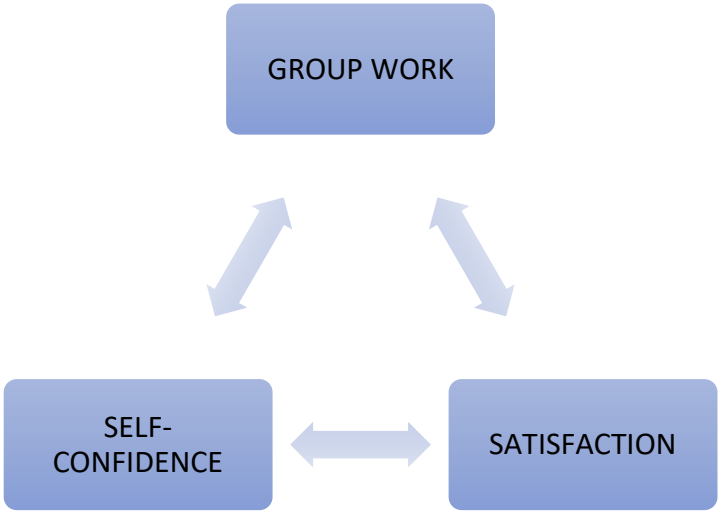

Figure 1- Conceptual framework of the Study

The influence of Satisfaction and Self-Confidence in Group work

METHODOLOGY

This quantitative study is done to explore the influence of satisfaction and self-confidence on group work. A convenient sample of 468 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from Bateman,et.al. (2002) and Studnicka,et.al, (2023) to reveal the variables in table 3 below. Table 1 below shows the categories used for the Likert scale; 1 is for Strongly Disagree, 2 is for Disagree, 3 is for Undecided, 4 is for Agree and 5 is for Strongly Agree.

Table 1- Likert Scale Use

1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Table 2- Distribution of Items in the Survey

SECTION	VARIABLE	CONSTRUCT	ITEM	
B	STUDENT SATISFACTION AND SELF-CONFIDENCE IN LEARNING Studnicka (2023)	Satisfaction with Current Learning	5	.943
		Self-Confidence in Learning	8	.939
C	GROUP WORK Bateman, et.al. (2002)	Purpose and Goals (PG)	3	22 (.986)
		Roles (R)	3	
		Team Processes (TP)	3	
		Team Relationships (TR)	4	
		Intergroup Relations (IR)	3	
		Passion and Commitment (PC)	3	
		Skills and Learning (SL)	3	
				35(.985)

Table 2 shows the distribution of items in the survey. Section B has 13 items on student satisfaction and self-confidence. Section C has 22 items on group work.

Table 3- Reliability Levels, Cronbach's Alpha Ranges, and Their Interpretations

Reliability Level	Cronbach's Alpha range	Interpretation
Excellent	0.9 and above	Indicates very high internal consistency
Good	0.80-0.89	Reflects strong internal consistency
Acceptable	0.70-0.79	Indicates acceptable internal consistency
Questionable	0.60-0.69	Reflects questionable internal consistency
Poor	Below 0.6	Indicates poor internal consistency

In order to determine the internal reliability of the instrument, reliability analysis is conducted. Table 3 above shows the distribution and interpretation of Cronbach Alpha range. According to Ahmad,et. al. (2024), Cronbach Alpha scores between 0.7 to 0.9 is considered acceptable to excellent.

Table 2 also shows the reliability of the survey. The analysis shows a Cronbach alpha of .943 for satisfaction, .939 for self-confidence, and .986 for group-work. The overall Cronbach's alpha for all 35 items is .985; thus, revealing a good reliability of the instrument chosen/used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

FINDINGS

Demographic Analysis

According to Zienefuss, et.al (2021), researches report demographic data in percentages to establish sample representatives, and allow for generalizability to a larger population. The reporting also provides an overview of participants' characteristics. Percentages offer a clear and understandable picture of the sample makeup.

Table 4- Percentage for Demographic Profile

Question	Demographic Profile	Categories	Percentage (%)
1	Gender	Male	24%
		Female	76%
2	Cluster	Science & Technology	44%
		Social Sciences , Humanities & Business	56%
3	Mode of Study	Full-Time	61%
		Part-time	39%

Table 4 shows the demographic profile of the respondents. The results indicate that females constituted the majority of the sample, which is 76% of the respondents, while males represented only 24%. In terms of academic cluster, 56% of the respondents were from the Social Sciences, Humanities, and Business cluster, whereas 44% were from the Science and Technology cluster. Regarding the mode of study, most of the respondents (61%) were studying as full-time students, while just 39% of the respondents were studying on a part-time basis.

Inferential Statistics

According to Shah (2024), there are three main functions of a T-test. Firstly, T-tests are done to compare means. This test is also done to determine if the average scores (mean) or values of two groups, or one group against a known value, are different enough to be considered statistically meaningful and are not just due to random chance. Secondly, T-test is done to test hypotheses. Researchers use t-tests to test hypotheses about means, such as whether a new treatment significantly impacts a variable or if there's a difference in performance between two distinct groups. Lastly, T-test is done to identify significant differences. The output of a t-test provides a p-value (significance value). If this p-value is below a pre-determined threshold (often 0.05), it indicates a statistically significant difference, allowing researchers to draw conclusions about the populations from which their samples were drawn.

Findings for Gender

This section presents data to answer research question 1: Is there a significant relationship between (a) group work,(b) satisfaction, and (c) self-confidence across gender?

H_{o1}: There is no significant relationship between (a) group work,(b) satisfaction, and (c) self-confidence across gender

Table 5: T-Test for Gender

Group Statistics

	Q1GENDER	N	Mean	Std. Deviation	Std. Error Mean
SATISFCATION	MALE	114	4.3702	.60863	.05700
	FEMALE	354	4.4390	.62394	.03316
SELF_CONFIDENCE	MALE	114	4.1897	.61242	.05736
	FEMALE	354	4.2860	.61102	.03248
GROUP_WORK	MALE	114	4.3038	.66255	.06205
	FEMALE	354	4.3282	.69677	.03703

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
SATISFCATION	Equal variances assumed	.143	.706	-1.030	466	.152	.303	-.06881	.06679	-.20006	.06245
	Equal variances not assumed			-1.043	195.270	.149	.298	-.06881	.06595	-.19887	.06125
SELF_CONFIDENCE	Equal variances assumed	.004	.950	-1.463	466	.072	.144	-.09632	.06584	-.22570	.03305
	Equal variances not assumed			-1.461	190.782	.073	.146	-.09632	.06591	-.22634	.03369
GROUP_WORK	Equal variances assumed	.592	.442	-.329	466	.371	.743	-.02437	.07416	-.17009	.12135
	Equal variances not assumed			-.337	199.715	.368	.736	-.02437	.07226	-.16687	.11813

A two-sample t-test was performed to compare between (a) group work,(b) satisfaction, and (c) self-confidence across gender. There were no significant relationships between (a) group work (p=.743) ,(b) satisfaction (p=.303), and (c) self-confidence (p=.144) across gender. The null hypothesis is accepted for $H_{o1.}$

Findings for Clusters

This section presents data to answer research question 2: Is there a significant relationship between (a) group work,(b) satisfaction, and (c) self-confidence across clusters?

$H_{o2:}$ There is no significant relationship between (a) group work,(b) satisfaction, and (c) self-confidence across clusters

Table 6: T-Test for Clusters

Group Statistics

	Q2CLUSTER	N	Mean	Std. Deviation	Std. Error Mean
SATISFCATION	S&T	206	4.4777	.54441	.03793
	SS,U & B	262	4.3786	.67182	.04151
SELF_CONFIDENCE	S&T	206	4.3271	.56503	.03937
	SS,U & B	262	4.2118	.64325	.03974
GROUP_WORK	S&T	206	4.3793	.62541	.04357
	SS,U & B	262	4.2774	.73148	.04519

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance		Mean	Std. Error	95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Difference	Difference	Lower	Upper
SATISFCATION	Equal variances assumed	5.931	.015	1.718	466	.043	.086	.09904	.05764	-.01423	.21231
	Equal variances not assumed			1.762	465.565	.039	.079	.09904	.05623	-.01144	.20953
SELF_CONFIDENCE	Equal variances assumed	2.445	.119	2.028	466	.022	.043	.11523	.05681	.00360	.22687
	Equal variances not assumed			2.060	460.271	.020	.040	.11523	.05594	.00531	.22516
GROUP_WORK	Equal variances assumed	4.880	.028	1.593	466	.056	.112	.10189	.06396	-.02379	.22757
	Equal variances not assumed			1.623	462.707	.053	.105	.10189	.06278	-.02147	.22525

A two-sample t-test was performed to compare between (a) group work,(b) satisfaction, and (c) self-confidence across clusters. There were no significant relationships between (a) group work (p=.112) ,(b) satisfaction (p=.086). However, there is a significant relationship for (c) self-confidence (p=.043) across clusters. The null hypothesis is accepted for $H_{o2a \text{ and }} H_{o2b}$ but rejected for $H_{o2c.}$

Findings for Modes of Study

This section presents data to answer research question 3: Is there a significant relationship between (a) group work,(b) satisfaction, and (c) self-confidence across modes of study?

H_{o3} There is no significant relationship between (a) group work,(b) satisfaction, and (c) self-confidence across modes of study

Table 7: T-Test for Modes of Study

Group Statistics

	Q3MODE	N	Mean	Std. Deviation	Std. Error Mean
SATISFCATION	Full-time	286	4.4636	.59354	.03510
	Part-time	182	4.3571	.65657	.04867
SELF_CONFIDENCE	Full-time	286	4.3142	.57370	.03392
	Part-time	182	4.1813	.66151	.04903
GROUP_WORK	Full-time	286	4.4065	.65600	.03879
	Part-time	182	4.1898	.71743	.05318

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
						Significance				95% Confidence Interval of the Difference
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
SATISFCATION	Equal variances assumed	3.450	.064	1.815	466	.035	.070	.10649	.05867	-.00880	.22179
	Equal variances not assumed			1.775	356.907	.038	.077	.10649	.06000	-.01151	.22450
SELF_CONFIDENCE	Equal variances assumed	7.149	.008	2.301	466	.011	.022	.13293	.05778	.01940	.24646
	Equal variances not assumed			2.229	345.471	.013	.026	.13293	.05963	.01566	.25020
GROUP_WORK	Equal variances assumed	2.853	.092	3.359	466	<.001	<.001	.21674	.06453	.08994	.34354
	Equal variances not assumed			3.293	360.102	<.001	.001	.21674	.06582	.08729	.34618

A two-sample t-test was performed to compare between (a) group work,(b) satisfaction, and (c) self-confidence across mode of study. There were significant relationships between (a) group work (p=<.001) ,(b) satisfaction (p=.022). However, there is a no significant relationship for (c) self-confidence (p=.070) across mode of study. The null hypothesis is rejected for H_{o3a} and H_{o3b} but accepted for H_{o3c}.

Descriptive Statistics (mean)

Why is there a need to report the mean and standard deviation? According to Vetter (2017), Mean (M) represents the average, or centre of a data set. Standard deviation (SD) indicates the typical distance of individual observations from the mean which shows the data's variability or spread. A low SD means the data points are clustered close to the mean whole a high. SD indicates they are more spread out. It is good to have a high SD.

Findings for Group Work

This section presents data to answer research question 4: How do learners perceive group work? In the context of this study, this is measured by (i) purpose and goals , (ii) roles, (iii) team processes, (iv) team relationships, (v) intergroup relations, (vi) passion and commitments and (vii) skills and learning.

Table 8: Mean and Standard Deviation (SD) for Purpose and Goals (PG)

ITEM	M	SD
PGQ1 Our team has a meaningful, shared purpose.	4.32	0.76
PGQ2 We are strongly committed to a shared mission.	4.35	0.76
PGQ3 We set and meet challenging goals.	4.38	0.74

Table 8 presents the mean and SD scores for the Purpose and Goals (PG) dimension. As shown in the results, all three questions had mean values above 4.0, showing that the participants perceived positive perceptions of their teams' shared purpose and goal orientations. PGQ3 ("We set and meet challenging goals") had the highest mean

score (M=4.38, SD=0.74), implying a higher level of agreement that the respondents felt that their teams could set challenging objectives for themselves and achieve those targets. Following PGQ3 is PGQ2 ("We are strongly committed to a shared mission"), with a mean value of 4.35 (SD=0.76). Finally, PGQ1 ("Our team has a meaningful, shared purpose") had a mean score of 4.32 (SD=0.76), which also means that respondents perceived high levels of shared purposes in their respective teams. It should be noted that the low standard deviation scores (0.74 to 0.76) suggest that there were consistent views of the respondents on the matter.

Table 9: Mean and Standard Deviation (SD) for Roles (R)

ITEM	M	SD
RQ1 Team members clearly understand their roles.	4.36	0.79
RQ2 When an individual's role changes, an intentional effort is made to clarify it for everyone on the team.	4.35	0.76
RQ3 Everyone values what each member contributes to the team	4.43	0.76

Table 9 presents the mean and SD scores for the Roles (R) dimension. Overall, the findings indicate that respondents had a positive perception of role clarity and teamwork within the team, as all items recorded high mean scores above 4.30. Among the items, RQ3 ("Everyone values what each member contributes to the team") gained the highest mean score (M=4.43, SD=0.76), showing strong agreement among respondents regarding mutual appreciation within the team. RQ1 ("Team members clearly understand their roles") obtained the second highest mean score (M=4.36, SD=0.79). RQ2 ("When an individual's role changes, an intentional effort is made to clarify it for everyone on the team") recorded the lowest mean score, although still higher than 4.30, with a mean of 4.35 (SD=0.76).

Table 10: Mean and Standard Deviation (SD) for Team Processes (TP)

ITEM	M	SD
TPQ1 We address and resolve issues quickly.	4.33	0.76
TPQ2 Our group works with a great deal of flexibility so that we can adapt to changing needs.	4.31	0.78
TPQ3 When we choose consensus decision-making, we do it effectively.	4.33	0.79

Table 10 presents the mean and standard deviation scores for the items measuring Team Processes (TP). Overall, the findings indicate a highly positive perception of operational dynamics within the teams, with all items scoring above a mean of 4.30. Both the swift resolution of issues (TPQ1: M = 4.33, SD = 0.76) and the effectiveness of executing consensus decision-making (TPQ3: M = 4.33, $SD = 0.79) shared the highest mean scores, demonstrating that the participants felt their teams were highly efficient and cohesive when making choices or handling problems. Similarly, the respondents reported a high level of operational adaptability, as seen in the strong agreement that teams worked with great flexibility to adapt to changing needs (TPQ2: M = 4.31, SD = 0.78). The relatively low and consistent standard deviations across all three items (ranging from 0.76 to 0.79) suggest that the respondents' positive evaluations of their team processes were closely aligned and free from extreme variance.

Table 11: Mean and Standard Deviation (SD) for Team Relationships (TR)

ITEM	M	SD
TRQ1 Team members appreciate one another's unique capabilities.	4.34	0.77
TRQ2 Team members are effective listeners.	4.33	0.82
TRQ3 Communication in our group is open and honest.	4.38	0.77
TRQ4 Members of our team trust each other.	4.36	0.77

Table 11 displays the mean and standard deviation values for items evaluating Team Relationships (TR). The data reveals exceptionally strong interpersonal bonds and mutual respect among team members, with mean

scores ranging comfortably between 4.33 and 4.38. The highest-rated element within this domain was transparent interaction, with members strongly agreeing that communication in their group was open and honest (TRQ4: M = 4.38, SD = 0.77). This was closely supported by a high level of mutual trust among team members (TRQ3: M = 4.36, SD = 0.77) and a deep appreciation for one another's unique capabilities (TRQ1: M = 4.34, SD = 0.77). Active listening, while still scoring remarkably high, represented the lowest mean in the set (TRQ2: M = 4.33, SD = 0.82). The slight spike in standard deviation for active listening (SD = 0.82) indicates a marginally wider spread of experiences regarding peer listening habits, though the overall consensus remains overwhelmingly positive, indicating healthy, trust-filled collaborative relationships.

Table 12: Mean and Standard Deviation (SD) for Intergroup Relations (IR)

ITEM	M	SD
IRQ1 We are able to resolve conflicts with other teams collaboratively.	4.28	0.77
IRQ2 We communicate effectively with other groups.	4.25	0.80
IRQ3 Our collaborations with other teams are productive, worthwhile, and yield good results.	4.26	0.80

Table 12 presents the mean and standard deviation scores for the Intergroup Relations (IR) construct. The findings indicate that respondents generally perceived positive intergroup relations within their organization, as reflected by the high mean scores across all items. Among the items, IRQ1 recorded the highest mean score (M = 4.28, SD = 0.77), suggesting that respondents strongly agreed that conflicts between teams are resolved through collaborative efforts. This was followed closely by IRQ3 with a mean score of 4.26 (SD = 0.80), indicating favourable perceptions of the outcomes of intergroup collaboration. IRQ2 obtained a mean score of 4.25 (SD = 0.80), demonstrating that respondents viewed communication across teams positively. Overall, the relatively high mean values and low standard deviations suggest a strong level of agreement among respondents regarding the effectiveness of intergroup relationships, communication, and collaboration within the organization.

Table 13: Mean and Standard Deviation (SD) for Passion and Commitment (PC)

ITEM	M	SD
PCQ1 Working on our team inspires people to do their best.	4.26	0.82
PCQ2 People are proud to be part of our team.	4.26	0.82
PCQ3 My team is proud of its accomplishments and optimistic about our work.	4.31	0.81

Table 13 shows the descriptive statistics for the Passion and Commitment (PC) construct. The results reveal that respondents exhibited a high level of passion and commitment toward their teams, as evidenced by the consistently high mean scores. PCQ3 recorded the highest mean score (M = 4.31, SD = 0.81), indicating that respondents strongly perceived their teams as being confident and positive about their achievements and future performance. Both PCQ1 and PCQ2 obtained identical mean scores of 4.26 (SD = 0.82), suggesting that team members feel motivated and take pride in their team membership. The low standard deviation values across all items indicate a high degree of consistency in respondents' perceptions. Overall, the findings suggest that respondents possess strong passion, commitment, and pride in their teams, contributing to a positive and motivated team environment.

Table 14: Mean and Standard Deviation (SD) for Skills and Learning (SL)

ITEM	M	SD
SLQ1 We have the skills we need to do our jobs effectively.	4.24	0.78
SLQ2 We view everything, even mistakes, as opportunities for learning and growth	4.36	0.74
SLQ3 Team members embrace continuous improvement as a way of life.	4.32	0.77

Table 14 shows the mean and SD scores for the Skills and Learning (SL). The results indicate that respondents generally had positive perceptions concerning skills development and continuous learning within the team, as

all items recorded high mean scores above 4.20. SLQ2 ("We view everything, even mistakes, as opportunities for learning and growth") obtained the highest mean score (M = 4.36, SD = 0.74), showing strong agreement among respondents on the importance of learning from experiences and mistakes. This was followed by SLQ3 ("Team members embrace continuous improvement as a way of life") with a mean score of 4.32 (SD = 0.77). Meanwhile, SLQ1 ("We have the skills we need to do our jobs effectively") recorded the lowest mean score, with a mean of 4.24 (SD = 0.78), although still at a high level.

Findings for Satisfaction

This section presents data to answer research question 5: How do learners perceive satisfaction in group work?

Table 15: Findings for Mean (M) and Standard Deviation (SD) for Satisfaction with Current Learning (CL)

ITEM	M	SD
CLQ1 The methods used in this role play /activity were supportive and effective	4.36	0.70
CLQ2 The role play /activity provided me with a variety of educational materials and activities to promote my learning.	4.41	0.70
CLQ3 I liked the way my instructor taught me the role play /activity	4.46	0.69
CLQ4 The teaching materials used in this role play /activity were motivating and helped me learn.	4.43	0.69
CLQ5 The way my instructor taught the role play /activity was appropriate to my way of learning.	4.45	0.67

Based on the data provided in Table 15, learners expressed a highly positive perception of satisfaction regarding their current learning in group work, with all five items yielding high mean scores (M=4.36) and consistently low standard deviations (SD= 0.70), indicating strong consensus among respondents. The highest level of satisfaction was observed in learners' appreciation for the instructor's teaching methodology (CLQ3: M = 4.46, SD = 0.69) and its appropriateness to their specific learning styles (CLQ5: M = 4.45, SD = 0.67). Similarly, the instructional materials and varied activities were highly rated for their capacity to motivate and promote learning, as seen in CLQ4 (M = 4.43, SD = 0.69) and CLQ2 (M = 4.41, SD = 0.70). Even the lowest-scoring item, which assessed the overall supportiveness and effectiveness of the role-play methods (CLQ1: M = 4.36, SD = 0.70), still reflects substantial agreement. Overall, these findings demonstrate that the combination of effective instructor guidance, diverse educational materials, and engaging role-play methodologies strongly contributes to learner satisfaction within collaborative group environments.

Findings for Self-Confidence

This section presents data to answer research question 6: How do learners perceive confidence in group work?

Table 16: Mean and Standard Deviation (SD) for Self-Confidence in Learning (L)

ITEM	M	SD
LQ1 I am confident that I am mastering the class role-play/activity presented to me by my instructors.	4.03	0.82
LQ2 I am confident that this role play/activity covered the essential content necessary to master the material covered in the curriculum.	4.21	0.76
LQ3 I am confident that I am developing the skills and gaining the required knowledge from this role play/activity to perform the necessary tasks in my course	4.20	0.74
LQ4 My instructors used a variety of helpful resources to teach this role play/activity	4.37	0.71
LQ5 It is my responsibility as a student to learn what I need during role play /activity classes.	4.44	0.65

LQ6 I know how to get help when I do not understand the concepts in the role play/activity.	4.43	0.71
LQ7 I know how to use role play exercises to learn the critical/key aspects of this course.	4.25	0.69
LQ8 It is the instructor's responsibility to show me what I need to learn during the role play /acidity class.	4.27	0.74

Table 16 presents the mean and standard deviation scores for Self-Confidence in Learning (L). The findings indicate that respondents generally demonstrated a high level of self-confidence in learning through role-play and group work activities, with all mean scores exceeding 4.00. Among the items, LQ5 recorded the highest mean score (M = 4.44, SD = 0.65), suggesting that respondents strongly acknowledged personal responsibility for their learning. This was closely followed by LQ6 with a mean score of 4.43 (SD = 0.71), indicating confidence in seeking assistance when needed. LQ4 also received a high mean score (M = 4.37, SD = 0.71), reflecting positive perceptions of instructional support. In contrast, LQ1 recorded the lowest mean score (M = 4.03, SD = 0.82), although it still indicates a high level of agreement. The relatively low standard deviation values across all items suggest consistency in respondents' perceptions. Overall, the findings reveal that learners possess strong self-confidence in their ability to learn, acquire knowledge and skills, seek support, and take responsibility for their learning during role-play and group work activities.

Exploratory Statistics (correlation)

According to He (2024), correlation is a statistical technique that shows how strongly two variables are related to each other or the degree of association between the two. It's a common tool for describing simple relationships without making a statement about cause and effect. This section presents data to answer research question on correlation.

According to He (2024), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0.

To determine if there is a significant association in the mean scores for group work, data is anlaysed using SPSS for correlations. Results are presented separately in Table 17 below.

Table 17: Correlation for group Work

Correlations				
		GROUP_WORK	SATISFCATION	SELF_CONFIDENCE
GROUP_WORK	Pearson Correlation	1	.721**	.711**
	Sig. (2-tailed)		<.001	<.001
	N	468	468	468
SATISFCATION	Pearson Correlation	.721**	1	.813**
	Sig. (2-tailed)	<.001		<.001
	N	468	468	468
SELF_CONFIDENCE	Pearson Correlation	.711**	.813**	1
	Sig. (2-tailed)	<.001	<.001	
	N	468	468	468
**. Correlation is significant at the 0.01 level (2-tailed).				

Findings for the Relationship between group work and satisfaction

This section presents data to answer research question 7: Is there a significant relationship between group work and satisfaction?

H_{o4}: There is no significant relationship between group work and satisfaction

Correlation analysis (Table 17) showed that there is a strong, positive relationship between group work and satisfaction (r=.721**) and (p=<.001). The null hypothesis is rejected for $H_{o4.}$

Findings for the Relationship between group work and self-confidence

This section presents data to answer research question 8: Is there a significant relationship between group work and confidence?

H_{o5}: There is no significant relationship between group work and confidence

Correlation analysis (Table 17) also showed that there is a strong, positive relationship between group work and self-confidence (r=.711**) and (p=<.001). The null hypothesis is rejected for $H_{o5.}$

CONCLUSION

Summary of Findings and Discussions

The findings of this study indicate that satisfaction and self-confidence influence group work among undergraduate students learning Mandarin as a third language. Results from the inferential statistics (t-test) comparing group work, satisfaction, and self-confidence across gender revealed no significant relationships. However, the t-test by cluster showed a significant relationship for self-confidence ($p = .043$). In contrast, the t-test by mode of study demonstrated significant relationships for group work ($p < .001$) and satisfaction ($p = .022$).

Learners' perceptions of group work were highly positive, with all items achieving mean scores above 4. Specifically, in terms of purpose and goals, learners reported strong agreement that their teams shared clear objectives, set challenging targets, and successfully achieved them. Regarding roles, learners perceived clarity of responsibilities and valued each member's contributions, reflected in high mean scores. For Team Processes (TP), the findings revealed strong positive perceptions of operational dynamics, with participants reporting that their teams were efficient, cohesive, and adaptable when making decisions or solving problems. This aligns with Werth (2018) and Yeoh (2019), who emphasized the benefits of group work in collaborative problem-solving and peer accountability. For Team Relationships (TR), the data indicated exceptionally strong interpersonal bonds and mutual respect, with respondents strongly agreeing that communication within their groups was open and honest. For Intergroup Relations (IR), respondents generally perceived positive relations across teams, particularly noting that conflicts were resolved collaboratively. For Passion and Commitment (PC), results showed that respondents exhibited high levels of motivation and pride in their team membership. This finding supports Xu et al. (2022), who reported that group work activities motivate students to learn Mandarin and reduce learning anxiety. For Skills and Learning (SL), respondents expressed positive perceptions of skill development and continuous learning, recognizing the importance of learning from experiences and mistakes. Similarly, learners reported high satisfaction with Current Learning (CL) in group work role-play activities, attributing this to effective instructor guidance, diverse materials, and engaging methodologies.

The findings for Self-Confidence indicated that respondents generally demonstrated strong confidence in learning through role-play and group work. This aligns with De Prada et al. (2024), Shaddad and Jember (2024), Zhang et al. (2024), and Bruhin et al. (2024), who found that learners possess high self-confidence in acquiring knowledge, seeking support, and taking responsibility for their learning. Additionally, Rahmat et al. (2021) reported that peer-led group structures in Mandarin learning helped weaker students gain confidence and competence through collaborative scaffolding.

Correlation analysis further revealed strong positive relationships between group work and satisfaction ($r = .721$, $p = .001$), as well as between group work and self-confidence ($r = .711$, $p < .001$). These results suggest that when learners perceive satisfaction and self-confidence in group work activities, their learning of Mandarin becomes significantly more effective.

Implications and Suggestions for Future Research

Theoretical and Conceptual Implications

The findings on the relationship between satisfaction, self-confidence, and group work revealed that learners perceived positive connections among these three variables. The implications of these results are strongly grounded in constructivist theory. This study aligns with the works of Dewey (1938), Piaget (1970), von Glasersfeld (1989), and Vygotsky (1978), which emphasize that during group work activities, learners share ideas, discuss diverse perspectives, and collaboratively solve problems. Such peer interactions foster deeper understanding, critical thinking, and communication skills, which are essential outcomes in learning Mandarin (Rahmat et al., 2021).

The findings also correspond with Studnicka (2023), who reported that group work interactions enhance learners' satisfaction with the learning process and contribute to building self-confidence. Furthermore, the results support Bateman et al. (2002), who highlighted that group work enables learners to acquire a wide range of essential skills, including clarifying purpose and goals, assuming roles, engaging in team processes, developing team relationships, managing intergroup relations, fostering passion and commitment, and enhancing skills and learning.

Pedagogical Implications

This study shows that satisfaction, self-confidence, and group work are closely connected in Mandarin learning. Group work is not only a teaching method but also a social and emotional space that shapes learners' motivation, confidence, and behavior. Role-play activities in group work promote active learning and collaboration by shifting instruction from teacher-centered to student-centered approaches (Saputro et al., 2021). Through tasks such as discussion, problem-solving, and knowledge sharing, learners develop teamwork, communication, and interpersonal skills. Compared to lectures, group work increases participation and engagement (Alfares, 2017; Hermawan et al., 2024).

Group work also supports peer scaffolding, shared knowledge construction, and exposure to diverse perspectives, which strengthen cognitive development and classroom interaction (Rahmat & Jon, 2023). It reduces language anxiety and builds confidence by creating a supportive environment where learners feel comfortable expressing ideas (Alfares, 2017). For group work to be effective, instructors should provide clear guidance, use diverse materials, and apply engaging methods (Saputro et al., 2021; Hermawan et al., 2024). At the same time, challenges such as different learning preferences, unequal participation, and mixed-ability groups must be managed carefully, as they can affect motivation and efficiency (Rahmat & Jon, 2023; Alfares, 2017). Ultimately, the success of group work depends on classroom dynamics and learners' psychological factors.

Taken together, these pedagogical implications reinforce the constructivist perspective outlined earlier. Group work in Mandarin learning not only facilitates knowledge construction through collaboration but also nurtures satisfaction and self-confidence, which are essential for sustained engagement. By integrating strong instructional design with supportive peer interaction, educators can create learning environments that embody both the theoretical foundations of constructivism and the practical needs of language learners.

Suggestions for Future Research

This study highlights the value of group work in Mandarin learning, but its reliance on cross-sectional, self-reported quantitative data limits the ability to establish causality or observe actual behavioral changes. Future research should adopt longitudinal and mixed-methods approaches—integrating surveys with interviews, classroom observations, or reflective journals—to gain deeper, more nuanced insights into learners' experiences during group activities over time.

Additionally, future studies should explore how a broader range of variables influences student outcomes. Researchers should investigate external factors such as teacher competency, group dynamics, cultural differences, prior language experience, and assessment methods, alongside psychological factors like motivation, anxiety,

and resilience. Comparing different group work strategies—such as role-play, project-based learning, or technology-supported collaboration—would also help identify the most effective approaches for fostering satisfaction and confidence.

Finally, to improve generalizability and reproducibility, future research should utilize larger, multi-institutional samples. It is crucial that subsequent studies ensure methodological transparency by providing highly detailed descriptions of their sampling processes, participants' baseline Mandarin proficiency levels, and the specific instructional characteristics of the group work and role-play activities implemented.

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