An Investigation of Group Work through the Social Cognitive Theory

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ABSTRACT

Group work commonly used in educational and organizational context to stimulate collaboration, shared learning and collective problem solving. However, due to differences in behaviors, human belief and social interactions between group members, the outcome of group work may fluctuate. This study aimed to explore group work through social cognitive theory. A quantitative approach was employed with 404 participants from a local university responding to the 5 Likert-scale survey that is rooted from Studnicka (2023) and Bateman, et. al. (2002). In general, learners had positive insight in terms of environmental, behavioral and personal factors. Findings reveal that to build an effective group work, clear goals, clear roles, good teamwork and learner confidence are needed. In conclusion, the finding parallels Social Cognitive Theory by revealing how these factors work together to influence group work. The findings suggest that language teachers should design group work with clear goals, defined roles, and supportive interaction to improve collaboration, learner confidence, and learning outcomes. The findings of this study bear interesting implications in the use of group work in the classroom.

Keywords: Social Cognitive Theory, group work, language learning, learner perceptions

INTRODUCTION

Background of Study

In contemporary education, the capacity to collaborate effectively has become essential for academic achievement, professional growth and lifelong learning. Group work extends beyond classroom practice and supports knowledge sharing, collective problem solving and the development of cognitive and social skills (Johnson, Johnson, & Smith, 2014). Although collaborative learning has been extensively researched, the psychological processes underlying effective group work remain insufficiently understood.

This study examines group work through the framework of Social Cognitive Theory (SCT) proposed by Bandura (1986) which conceptualizes learning as the interaction of personal, behavioural and environmental factors. Social Cognitive Theory (SCT) emphasizes learning through observation, behavioral modeling and reflective processes. Applying Social Cognitive Theory (SCT) to group work enables an examination of how self-efficacy, observational learning and social interaction influence collaborative learning outcomes.

Two key concepts underpin this study are group work and Social Cognitive Theory (SCT). Group work refers to structured cooperative activities in which learners collaborate to achieve shared objectives, promoting both cognitive development and interpersonal skills (Gillies, 2016). Social Cognitive Theory (SCT) explains learning as a dynamic process shaped by individual beliefs, behaviors and environmental influences with particular emphasis on self-efficacy, modeling and self-regulation (Bandura, 2001).

Despite extensive research on group work, limited attention has been given to its examination through Social Cognitive Theory (SCT) mechanisms. Investigating the roles of observational learning and self-efficacy is especially relevant in modern educational settings including digital and hybrid environments. By analyzing group work through the Social Cognitive Theory (SCT) framework, this study aims to clarify the social and cognitive processes that contribute to effective collaboration and to inform educational practice, curriculum design and policy development.

Statement of Problem

Research on group work has expanded significantly across educational contexts, highlighting that collaborative learning can improve students' achievement, engagement and cognitive development (Johnson & Johnson, 2014; Aikens et al., 2023). Recent empirical studies applying Social Cognitive Theory (SCT) to collaborative settings suggest that the theory's triadic reciprocal framework which encompasses personal, behavioral and environmental factors effectively explains how individuals interact and learn within groups (Bandura, 1986; Ismail et al., 2024). For instance, research on online group work shows that environmental factors such as digital tools, interact with students' behaviors and cognitive processes to influence group outcomes.

Despite these insights, the literature reveals persistent conceptual and practical limitations in applying Social Cognitive Theory (SCT) to group work. First, most studies focus on online or blended learning and limiting generalization to traditional face-to-face settings (Kadar et al., 2023). Second, research often examines only one or two Social Cognitive Theory (SCT) components such as teaching presence or environmental support rather than the reciprocal interactions among personal, behavioral and environmental factors. Consequently, the dynamic processes through which these elements jointly shape collaboration remain underexplored. Additionally, issues such as unequal participation and variations in trust and motivation are frequently treated as outcomes rather than as integral aspects of Social Cognitive Theory (SCT) mechanisms.

These gaps have important implications. Without a comprehensive model that integrates all three Social Cognitive Theory (SCT) determinants, educators and researchers lack guidance on optimizing group work across learning environments. Recent studies also indicate a need for empirical investigation into how personal self-efficacy, social behaviors and environmental supports interact to influence group performance and learning outcomes. This reciprocal interplay is central to Social Cognitive Theory (SCT) yet remains insufficiently studied.

Therefore, this study aims to systematically examine group work through the lens of Social Cognitive Theory (SCT) by investigating the reciprocal relationships among personal, behavioral and environmental factors. The goal is to clarify how these interactions support effective collaboration and address unresolved issues in the current literature, thereby informing stronger theoretical models and practical strategies for group work in diverse educational settings.

Objective of the Study and Research Questions

This study is done to explore group work through social cognitive theory. Specifically, this study is done to answer the following questions;

- How do learners perceive environmental factors in group work?
- How do learners perceive behavioral factors in group work?
- How do learners perceive personal factors in group work?

- Is there a relationship between all factors for group work?

  (H1- There is no relationship between all factors for group work)

- Is there a significant difference for all factors across Arabic language Level?

  (H2-There is no significant difference for all factors across Arabic language Level)

LITERATURE REVIEW

Theoretical Framework of the Study

Social Cognitive Theory (SCT) and Group Work

According to Social Cognitive Theory (Bandura, 1986), learning is shaped by reciprocal interactions among personal, environment and behavior factors. This theory perspective rejects linear models of learning but highlights reciprocal determinism which is individuals both influence and are influenced by their social environment through their actions. In educational settings, Social Cognitive Theory provides a comprehensive lens for explaining how learning is influenced not only by learners' cognitive and emotional factors but also by the social structures and behavioral practices integrated within instructional settings. Thus, this theory has been extensively used in understanding collaborative learning interactions in explaining the dynamic interactions between learners' self-confidence, group environments and behavior patterns (Ismail et al., 2024; Kadar et al., 2023). The application of this theory is particularly relevant as collaborative learning incorporates continuous interactions between learners, peers and the learning environment.

Within Social Cognitive Theory, personal factors refer to individuals' internal cognitive and affective states including beliefs, perceptions, expectations and emotional responses (Bandura, 1986). In the context of group work, the personal factors examined in this study learners' satisfaction and self-confidence are closely associated with Bandura's concept of self-efficacy which is defined as individuals' beliefs in their capabilities to organize and execute actions required to attain desired outcomes (Bandura, 1997).

Environmental factors consist of social and physical conditions that provide opportunities and constraints shaping learners' learning experiences (Bandura, 1986). Behavioral factors, in turn, refer to individuals' observable actions through which they both influence and respond to their environment (Bandura, 1986). Rather than functioning independently, these three components are interconnected and mutually influential, thereby underpinning the concept of reciprocal determinism.

Prior research has shown that learners' self-efficacy significantly influences participation, persistence and quality of interaction during collaborative tasks (Schunk & DiBenedetto, 2020). In addition, supportive group environments characterized by clear goals, structured roles and positive peer interactions have been found to enhance motivation and collaborative behaviors (Gillies, 2016; Panadero & Jarvela et al., 2015). Thus, these findings support Bandura's principle of reciprocal determinism, demonstrating that effective teamwork emerges from the continuous interaction of personal, behaviors and environment factors.

Tuckman's Stages of Group Work

Group work development refers to the dynamic process that results from the reciprocal interaction between personal factors, behavioral patterns, and the social environment (Adam, 2024). From the perspective of a group setting, this development commonly involves the evolution of communication, problem-solving, and leadership behaviors among members. The theory that best explains group development is Tuckman's model which was based on research on team dynamics in academic and organizational contexts. As proposed by Tuckman (1965), group work theory states that teams go through five sequential stages: forming, storming, norming, performing, and adjourning, each representing a distinct phase in the development and effectiveness of a group. These stages represent the team's journey from initial formation to becoming a cohesive and effective unit. During the forming stage, members orient themselves to the group's purpose and structure, while the storming stage is characterized

by interpersonal conflict and negotiation of roles and power. As the group advances to the norming stage, shared norms, cohesion, and mutual trust are established, enabling more effective collaboration. In the performing stage, the group demonstrates high levels of task efficiency and goal attainment, supported by well-defined roles and strong interpersonal relationships. The final adjourning stage involves task completion and group dissolution, often accompanied by reflection and evaluation of outcomes, highlighting the developmental and temporal nature of group work. In the context of social cognition, this theory is particularly relevant due to the unique nature of the development that often brings together students with diverse backgrounds, experiences, and research interests (Egolf, 2022).

Past Studies

Past Studies on Language Learning Motivation

Many studies have been done to investigate the elements of language learning motivation, particularly emphasizing the role of social interaction and collaborative learning contexts. These studies suggest that learners' motivation is strongly influenced by group dynamics, peer support, and shared learning experiences that shapes their engagement, self- efficacy and their motivation in language learning.

The study by Zhang, Q. et. al (2025) investigated the effects of social reinforcement on language learning, particularly learners' autonomy, competence and relatedness in online EFL contexts. This research involved 100 intermediate- level Iranian EFL learners which have been randomly assigned to either an experimental group or a control group. Findings of this mixed- methods design method revealed that learners who received targeted social reinforcement demonstrated significant improvements in autonomy, competence, and relatedness compared to those who did not receive such reinforcement. The learners also perceived social reinforcement as positively influencing their motivation. The study implies that strategically implemented social reinforcement can effectively enhance learner motivation, highlighting the importance of supportive social interaction in the design of online language learning environments.

Next, the study by Lin et. al (2025) explored the relationship between English- speaking self- efficacy and English learning motivation among Polytechnic EFL learners in Malaysia and China. This research involved 296 EFL learners selected via cluster sampling and employed a questionnaire survey to measure learners' self-efficacy and motivational levels. Findings showed moderate levels of both self- efficacy and motivation, with a significant positive correlation between English- speaking self- efficacy and learning motivation. Multiple regression analysis further revealed that self- efficacy was a salient predictor of English learning motivation, suggesting that learners who feel more confident in their speaking ability tend to be more motivated to engage in language learning. This highlights the understanding relationship between learners' confidence and their motivation can assist educators in designing effective instruction that enhances learners' confidence and sustained motivation in EFL contexts.

Zhang, Fang et. al (2025) has conducted a study to investigate foreign language learners' cognitive motivation across two distinct stages: formal classroom learning and real- world language use. This study aimed to examine how motivational levels vary across learning contexts and how multilingual experience shapes motivational development. The respondents involved Chinese University Graduates with experience learning and using one or more foreign languages. Data of this study were collected through a questionnaire survey measuring learners' cognitive motivation in both academic and real- world contexts. The findings revealed that learners demonstrated higher levels of motivation in real- world language use compared to formal classroom learning. The study implies that contextual and experiential factors play a critical role in shaping language learning motivation, supporting the Social Cognitive Theory perspective that motivation is dynamically influenced by the interaction between learners' cognitive processes and their learning environment.

The study by AlMayez et. al (2025) conducted to investigate the relationships among motivation, self- regulated learning strategies, and self- efficacy in online language learning environments. The respondents of this study were Saudi EFL learners participating in online language courses. Data were collected using questionnaires measuring motivation, self- regulation, and self- efficacy, and the results were analyzed using correlational and regression analyses. The findings revealed strong positive relationships among all three constructs, indicating

that highly motivated learners were more likely to employ effective self- regulated learning strategies which enhanced their self- efficacy. The study implies that motivation, self- regulation, and self- efficacy are mutually reinforcing factors that collectively support successful online learning consistent with Social Cognitive Theory's emphasis on the interaction between personal cognition, behavior and environment.

Overall, these studies demonstrate that language learning motivation is shaped by the dynamic interaction of personal, cognitive, and social factors, in line with Social Cognitive Theory. Learners' self- efficacy and confidence (Lin et. al., 2025; AlMayez et al.,2025) strongly influence their engagement and use of self- regulated strategies, while social and environmental factors, such as social reinforcement (Zhang, Q. et. al., 2025) and real- world learning contexts (Zhang, Fang et. al., 2025) enhance motivation by providing support, feedback and opportunities for observation. Therefore, motivation is context-dependent, varying across classroom, online and real- world settings and emerges through the reciprocal interplay of cognition, behavior and environment.

Past Studies on Group Work

Many studies have been done to investigate how group work operates in educational contexts. It particularly focuses on collaborative interaction, environmental influences and cognitive-social processes that shape the effectiveness of group work in both face-to-face and online settings. These studies often draw on theoretical frameworks such as Social Cognitive Theory (SCT) to understand how personal, behavioural and environmental factors interact to influence group outcomes.

The study by Kadar et al. (2023) was conducted to investigate online group work through the lens of Social Cognitive Theory (SCT). This quantitative research aimed to explore how undergraduates engage in online group work by analysing personal, behavioral and teaching presence factors rooted in Bandura's theory. A purposive sample of undergraduates participated in the study with data collected using a 5 Likert-scale survey comprising four sections: demographic profile, personal factors, behavioural factors and teaching presence. The results revealed that online group work positively supports communication of ideas and enhances students' understanding of learning tasks. The study implies that instructors should design collaborative online activities that strengthen cognitive and social interactions to improve group work effectiveness.

Next, the study by Ismail et al. (2024) also looked at online group work using Social Cognitive Theory (SCT) extending the inquiry to environmental influences. This research involved civil engineering undergraduates and used a structured survey based on four SCT-related sections: behavior (cognitive presence), people (social presence), environment (teaching presence) and demographics. The results showed that effective teaching presence such as clear instructions and well-designed online materials significantly enhances perceptions of the online learning environment. Correlation analyses indicated that cognitive, social and environmental factors collectively influence how students engage in collaborative tasks. The implications stress the importance of supportive environments and targeted instructional strategies to optimize group work processes and students' engagement.

Another relevant investigation by Costley (2021) investigated the effects of role taking in group work on collaboration and germane cognitive load. Although the study did not explicitly adopt Social Cognitive Theory (SCT), its cognitive emphasis aligns with the theory's focus on cognitive and social processes. Data from 1,399 university students in South Korea were analyzed to determine whether the amount of group engagement and member roles moderate cognitive load during collaborative study activities. Results showed that more group work generally increased students' cognitive load associated with deep processing with lower-contributing members benefiting more from increased collaboration than higher contributors. Practical implications suggest that diverse group roles and varied collaborative interactions can support deeper learning in group work contexts.

Finally, Hoehn et al. (2020) explored social dynamics and epistemic stances toward group work in a physics education setting. The study used case analysis of four students in collaborative problem solving, focusing on how beliefs about knowledge generation and social interactions shape group processes. Although qualitative, it provides insight into how students' cognitive and social perspectives interact during collaborative work, emphasizing that alignment of epistemic stances influences productivity and equity in group outcomes. This

highlights the importance of social and cognitive alignment in group work, echoing SCT's emphasis on reciprocal personal-environment influences.

Overall, these studies demonstrate that effective group work emerges from the interaction of cognitive, social and environmental factors. Kadar et al. (2023) and Ismail et al. (2024) show that teaching, social and cognitive presence (concepts from SCT) shape students' collaboration and learning. Costley (2021) and Hoehn et al. (2020) highlight the influence of role dynamics and social cognition in group processes. Together, they suggest that group work is not merely an instructional practice but a complex social-cognitive process that requires careful design and facilitation to maximize student engagement, learning and interaction. They also support using Social Cognitive Theory (SCT) as a framework for analyzing group work dynamics in educational research.

Conceptual Framework of the Study

Figure 1 below shows the conceptual framework of the study. This study explores group work for language learning from the perspective of social cognitive theory by Bandura (1977). In the context of this study, this theory views groupwork as an interaction process between the environment, person and behavior. Group work enables learners to improve not only on their communication skills but also the learner's problem-solving and negotiation skills (Rahmat, 2021). The factors in Bandura's (1977) are used as variables and is supported by constructs by Studnicka (2023) and Bateman, et.al (2002).

With reference to figure 1, to begin with the factor environment by Bandura (1977) signifies the group work that the learners are in. This is supported by group work constructs by Bateman's, et.al (2002) such as (i) purpose and goals (PG), (ii) roles (R), (iii) team processes (TP), and (iv) skills and learning. Next, the variable behavior is supported by constructs by Bateman's, et.al (2002) such as (i) team relationships (TR), (ii) intergroup relations (IR) and (iii)passion and commitment. Lastly, the variable person is supported by Studnicka's (2023) constructs such as (i) satisfaction with current learning and (ii) self-confidence in learning. In lieu of the fact that the factors in the social cognitive theory are known to continuously influence and are influenced by one another, this study thus investigate the relationship of all the factors

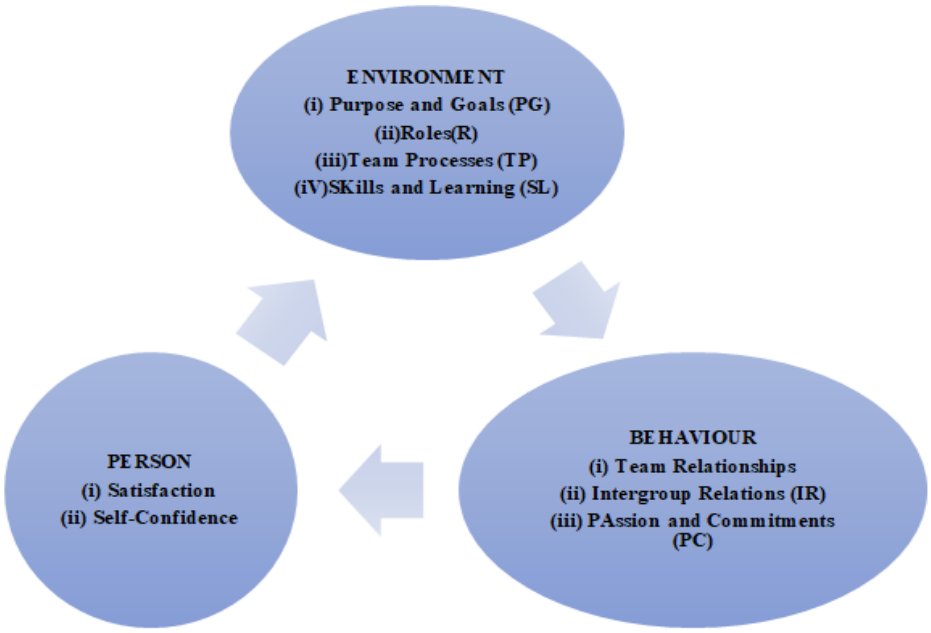

Figure 1- Conceptual Framework of the Study-

An Investigation of Group Work through the Social Cognitive Theory

METHODOLOGY

This quantitative study is done to explore group work through social cognitive theory. A convenient sample of 404 participants responded to the survey. The instrument used is a 5 Likert-scale survey and is rooted from Studnicka (2023) and Bateman, et.al. (2002) 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	Tot Items	Cronbach Alpha
B	PERSON	Satisfaction with Current Learning	5	13	.956
		Self-Confidence in Learning	8		
C	ENVIRONMENT	Purpose and Goals (PG)	3	9	.966
		Roles (R)	3		
		Team Processes (TP)	3		
D	BEHAVIOUR	Team Relationships (TR)	4	13	.973
		Intergroup Relations (IR)	3		
		Passion and Commitment (PC)	3		
		Skills and Learning (SL)	3		
				35	.984

Table 2 shows the items in the survey. This survey was designed to quantify factors related to individual, environmental dan behavioral aspects of learning. Table 2 shows that the survey consists of 35 items assembled into three main categories. Section B contains 13 items which 5 and 8 items measuring both satisfaction with current learning and self-confidence in learning. This section assesses learner's understanding of their learning experiences and confidence in acquiring new knowledge. For this section, the coherence is high with a Cronbach's $\alpha = 0.956$. Section C contains 9 items distributed equitably covering purpose and goals (PG), roles (R), and team processes (TP) with three items for each design. This section evaluates to the point which the learning environment supports coherence of purpose, role definition, and successful team functioning. The reliability analysis shows magnificent internal consistency, with a Cronbach's $\alpha = 0.966$. Section D contains 13 items which 4 items measuring team relationships, and 3 items respectively measuring intergroup relations,

passions and commitment and skill and learning. This section highlights collaborative behaviors, motivation and learning-related competencies. The Cronbach's α = 0.973 demonstrated strong reliability for this section. In general, the high Cronbach's alpha values over all sections indicate that the instrument reveals excellent consistency, validating its suitability for evaluating learning-related personal, environmental, and behavioral constructs.

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 one. 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 α = .956 for Person, α = .966 for Environment and α = .973 for Behavior. The overall Cronbach alpha for all 35 items is α = .984; 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), researchers 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	33%
		Female	67%
2	Arabic Language Level	Level 1	36%
		Level 2	33%
		Level 3	31%

Table 3 presents the demographic profile of the learners involved in the study. In terms of gender distribution, indicates a larger participation from female learners which is 67%, while the participation from male learners is 33%. Regarding Arabic language level, the highest representation is from level 1, comprising 36% of the total learners. This is followed by 33% from level 2 and 31% from level 1. This distribution shows a relatively

balanced across Arabic language proficiency levels and supports the generalizability of the study across different proficiency levels rather than being focused to a single group. However, the imbalance in gender should be considered when interpreting the findings since the data may reflect learning tendencies more **representative of female learners.**

Descriptive Statistics

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 Environmental factors

This section presents data to answer research question 1- How do learners perceive environmental factors in group work? In the context of this study, this is measured by (i) purpose and goals (PG), (ii) roles (R), and (iii) team processes (TP)

Table 5- Mean for Purpose and Goals (PG)

ITEM	Mean	SD
PGQ1 Our team has a meaningful, shared purpose.	4.19	0.73
PGQ2 We are strongly committed to a shared mission.	4.22	0.70
PGQ3 We set and meet challenging goals.	4.21	0.74

Based on Table 5, the findings indicate a high level of agreement among respondents regarding the Purpose and Goals (PG) factor. All items recorded mean scores above 4.00, suggesting that respondents generally perceive their teams as having strong clarity of purpose and goal orientation. Among the items, PGQ2 ("We are strongly committed to a shared mission") obtained the highest mean score (M = 4.22, SD = 0.70), indicating that commitment to a shared mission is the most strongly perceived aspect. This is closely followed by PGQ3 ("We set and meet challenging goals") with (M = 4.21, SD = 0.74), reflecting respondents' confidence in their team's ability to pursue and achieve demanding objectives. PGQ1 ("Our team has a meaningful, shared purpose") also recorded a high mean score (M = 4.19, SD = 0.73), further supporting the presence of a shared sense of purpose within the team. The relatively low standard deviation values across all items indicate consistent responses among participants. Overall, these results suggest that the teams demonstrate strong alignment in purpose and goals, which is essential for effective group functioning and performance.

Table 6- Mean for Roles (R)

ITEM	Mean	SD
RQ1 Team members clearly understand their roles.	4.21	0.71
RQ2 When an individual's role changes, an intentional effort is made to clarify it for everyone on the team.	4.19	0.70
RQ3 Everyone values what each member contributes to the team	4.31	0.67

Based on Table 6, the findings indicate a high level of agreement among respondents regarding the Roles (R) factor within the group. All items recorded mean scores above 4.00, confirming that team members generally perceive roles within the group as clear and well understood. RQ3 ("Everyone values what each member contributes to the team") achieved the highest mean score (M = 4.31, SD = 0.67), indicating strong appreciation

and recognition of individual contributions. This is followed by RQ1 ("Team members clearly understand their roles") with (*M* = 4.21, *SD* = 0.71), reflecting clarity in role expectations. RQ2 ("When an individual's role changes, an intentional effort is made to clarify it for everyone on the team") also showed a high mean score (*M* = 4.19, *SD* = 0.70), suggesting effective communication during role transitions. The relatively low standard deviation values across all items indicate consistency in respondents' perceptions. Overall, the results show that clearly defined and valued roles contribute positively to effective group work.

Table 7- Team Processes (TP)

ITEM	Mean	SD
TPQ1 We address and resolve issues quickly.	4.14	0.71
TPQ2 Our team works with a great deal of flexibility so that we can adapt to changing needs.	4.18	0.71
TPQ3 When we choose consensus decision-making, we do it effectively.	4.21	0.72

Based on Table 7, the findings indicate a high level of agreement among respondents regarding the Team Processes (TP) factor. All items recorded mean scores above 4.00, suggesting that respondents generally perceive their teams as functioning effectively in terms of processes and coordination. TPQ3 ("When we choose consensus decision-making, we do it effectively") obtained the highest mean score (*M* = 4.21, *SD* = 0.72), indicating strong confidence in the team's decision-making processes. This is followed by TPQ2 ("Our team works with a great deal of flexibility so that we can adapt to changing needs") with (*M* = 4.18, *SD* = 0.71), reflecting the team's adaptability. TPQ1 ("We address and resolve issues quickly") also recorded a high mean score (*M* = 4.14, *SD* = 0.71), suggesting effective problem resolution within the team. The relatively low standard deviation values indicate consistent responses among participants. Overall, these findings suggest that effective team processes contribute positively to overall group performance.

Findings for Behavioral factors

This section presents data to answer research question 2- How do learners perceive behavioral factors in group work? In the context of this study, this is measured by (i) team relationships (TR), (ii) intergroup relations (IR), (iii) passion and commitment (PC), and skills and learning (SL)

Table 8- Mean for Team Relationships (TR)

ITEM	Mean	SD
TRQ1 Team members appreciate one another's unique capabilities.	4.36	0.69
TRQ2 Team members are effective listeners.	4.26	0.72
TRQ3 Communication in our group is open and honest.	4.23	0.74
TRQ4 Members of our team trust each other.	4.28	0.74

Table 8 shows the descriptive statistics for Team Relation (TR). The high mean scores for all four items indicate a strongly positive perception of team relationships among the respondents. Among the four items, the highest mean score was recorded for the appreciation of one another's unique capabilities among team members in a group work (TRQ1), (*M* = 4.36, *SD* = 0.69) suggesting that group members highly value individual strengths and contributions. This was followed by TRQ4 ("Members of our team trust each other"), which obtained the second highest (*M* = 4.28, *SD* = 0.74) reflecting a strong level of mutual trust among team members. In contrast, the lowest mean was observed for the item TRQ3 ("Communication in our group is open and honest") with (*M* = 4.23, *SD* = 0.74), determined that respondents perceived communication within their group as attentive and

transparent during group work. Overall, the results suggest a common agreement regarding the positive quality of team relationships. Thus, supporting interpersonal conditions may enhance learners' self-efficacy, motivation and willingness to engage in collaborative language learning tasks. Overall, the results demonstrate that positive team relationships play a crucial role in fostering an encouraging social environment that supports motivated behavior and effective collaboration.

Table 9- Mean for Intergroup Relations (IR)

ITEM	Mean	SD
IRQ1 We are able to resolve conflicts with other teams collaboratively.	4.19	0.69
IRQ2 We communicate effectively with other groups.	4.14	0.72
IRQ3 Our collaborations with other teams are productive, worthwhile, and yield good results.	4.17	0.74

As reflected in Table 9, the findings indicate a generally positive evaluation of intergroup relations (IR). The highest mean score was recorded for the item "We are able to resolve conflicts with other teams collaboratively" (IRQ1), with (M = 4.19, SD = 0.69), highlighting students' capabilities in managing disagreements constructively across working groups. This was followed by IRQ3 ("Our collaborations with other teams are productive, worthwhile, and yield good results") which obtained (M = 4.17, SD = 0.74) interpreting that students perceived their intergroup collaborations as effective and beneficial. Meanwhile, IRQ2 ("We communicate effectively with other groups") recorded a slightly lower mean score which is (M = 4.14, SD = 0.72), indicating intergroup communications are largely effective. Overall, the results suggest that students experience positive and supportive interactions among working intergroup which may enhance collective efficacy, social learning and sustained motivation in collaborative language learning contexts.

Table 10- Mean for Passion and Commitment (PC)

ITEM	Mean	SD
PCQ1 Working on our team inspires people to do their best.	4.17	0.70
PCQ2 People are proud to be part of our team.	4.14	0.75
PCQ3 My team is proud of its accomplishments and optimistic about our work.	4.22	0.72

Table 10 above displays the mean values of passion and commitment (PC). The highest average rating was observed for the item measuring team pride and optimism (M = 4.22, SD = 0.72). Next, with (M = 4.17, SD = 0.70), the item assessing inspirational aspects of teamwork emerged as the second most highly rated. Conversely, the item reflecting pride in team membership received the lowest mean score among all items (M = 4.14, SD = 0.75).

Table 11- Mean for Skills and Learning (SL)

ITEM	Mean	SD
SLQ1 We have the skills we need to do our jobs effectively.	4.16	0,70
SLQ2 We view everything, even mistakes, as opportunities for learning and growth	4.21	0.68
SLQ3 Team members embrace continuous improvement as a way of life.	4.23	0.73

Table 11 presents the mean values for skills and learning (SL). The statement regarding team members' adherence to continuous improvement as a way of life emerged as the highest-rated item, with (M = 4.23, SD =

0.73). Next, the second highest mean score (*M* = 4.21, *SD* = 0.68) was recorded for the item indicating that all experiences including mistakes, are employed as mechanisms for continuous learning and improvement. By contrast, the statement concerning the adequacy of respondents' job-related skills received the lowest mean rating with a mean of (*M* = 4.16, *SD* = 0.70).

Findings for Personal factors

This section presents data to answer research question 3- How do learners perceive personal factors in group work? In the context of this study, this is measured by (i) satisfaction with current learning and (ii)self-confidence in learning.

Table 12- Mean for Satisfaction with Current Learning (CL)

ITEM	Mean	SD
CLQ1 The methods used in this role play /activity were supportive and effective	4.17	0.72
CLQ2 The role play /activity provided me with a variety of educational materials and activities to promote my learning.	4.19	0.69
CLQ3 I liked the way my instructor taught me the role play /activity	4.32	0.69
CLQ4 The teaching materials used in this role play /activity were motivating and helped me learn.	4.20	0.73
CLQ5 The way my instructor taught the role play /activity was appropriate to my way of learning.	4.27	0.70

Table 12 above displays the mean for learners' satisfaction with current learning (CL). The highest mean score was recorded for CLQ3, (*M* = 4.32, *SD* = 0.69) for the item the way the instructor taught the role play/activity. Next, the result indicated the second highest mean scores (*M* = 4.27, *SD* = 0.7) which related to the satisfaction of the instructor's teaching approach to the learners' preferred learning styles. In contrast, CLQ1, which focuses on the effectiveness and supportiveness of the method used in the role play, showed the lowest mean score among the items (*M* = 4.17, *SD* = 0.72). The remaining items, CLQ2 and CLQ4, that relate to the variety and motivational aspects of the teaching materials, indicated the third and fourth mean scores, respectively.

Table 13-Mean for Self-Confidence in Learning (L)

ITEM	Mean	SD
LQ1 I am confident that I am mastering the class role-play/activity presented to me by my instructors.	3.82	0.82
LQ2 I am confident that this role play/activity covered the essential content necessary to master the material covered in the curriculum.	4.05	0.71
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	4.09	0.73
LQ4 My instructors used a variety of helpful resources to teach this role play/activity	4.17	0.70
LQ5 It is my responsibility as a student to learn what I need during role play /activity classes.	4.29	0.69

LQ6 I know how to get help when I do not understand the concepts in the role play/activity.	4.14	0.74
LQ7 I know how to use role play exercises to learn the critical/key aspects of this course.	4.06	0.78
LQ8 It is the instructor's responsibility to show me what I need to learn during the role play /acidity class.	4.13	0.73

Overall, the findings indicate a high level of positive perception toward the role play/activity, as all items recorded mean scores above 3.80. The highest mean score was observed for LQ5 (*M* = 4.29, *SD* = 0.69), suggesting that students strongly perceive learning during role play/activity classes as their own responsibility, reflecting a high level of learner autonomy. High mean scores were also reported for LQ4 (*M* = 4.17, *SD* = 0.70) and LQ6 (*M* = 4.14, *SD* = 0.74), indicating that instructors' use of varied teaching resources and students' awareness of how to seek help were positively perceived. Items related to skill and knowledge development LQ3 (*M* = 4.09, *SD* = 0.73) and effective use of role play for learning key course aspects LQ7 (*M* = 4.06, *SD* = 0.78) further suggest that role play activities support meaningful learning outcomes. Although LQ1 (*M* = 3.82, *SD* = 0.82) recorded the lowest mean score, it still reflects a generally positive level of confidence in mastering role play activities. Overall, the consistently high mean scores demonstrate that role play/activity-based learning is perceived as effective in supporting student learning, skill development, and shared responsibility between students and instructors.

Exploratory Statistics

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 questions on correlation. To determine if there is a significant association in the mean scores between all factors of group work, data is analyzed using SPSS for correlations. Results are presented separately in table 3, 4, 5 and 6 below.

Findings for Relationship between all factors for group work

This section presents data to answer research question 4- Is there a relationship between all factors for group work?

(H1- There is no relationship between all factors for group work)

Table 14- Correlation between all factors for group work

		PERSON	ENVIRONMENT	BEHAVIOUR
PERSON	Pearson (Correlation	1	.783**	.806**
	Sig (2-tailed)		<.001	<.001
	N	404	404	404
ENVIRONMENT	Pearson (Correlation	.783**	1	.922**
	Sig (2-tailed)	<.001		<.001
	N	404	404	404
BEHAVIOUR	Pearson (Correlation	.806**	.922**	
	Sig (2-tailed)	<.001	<.001	
	N	404	404	404

**Correlation is significant at the 0.01 level (2-tailed)

Table 14 shows there is an association between person and environment. Correlation analysis shows that there is a high significant association between person and environment (r = .783**) and (p = <.000). 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. This means that there is also a strong positive relationship between person and environment. Null hypothesis is rejected.

Next, there is an association between environment and behavior. Correlation analysis shows that there is a high significant association between environment and behavior (r = .922**) and (p = <.000). 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. This means that there is also a strong positive relationship between environment and behavior. Null hypothesis is rejected.

Lastly, there is an association between person and behavior. Correlation analysis shows that there is a high significant association between environment and behavior (r = .806**) and (p = <.000). 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. This means that there is also a strong positive relationship between environment and behavior. Null hypothesis is rejected.

Inferential Statistics

According to He (2024), there are three main functions of a T-test and ANOVA. Firstly, both 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 and ANOVA are done to test hypotheses. Researchers use t-tests and ANOVA 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 and ANOVA are done to identify significant differences. The output of a t-test provides a p-value (significance value). If this p-value is below a predetermined 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 Significance Difference for all factors for group work

This section presents data to answer research question 5- Is there a significant difference for all factors across Arabic language Level?

(H2-There is no significant difference for all factors across Arabic language Level)

Table 15- ANOVA for all factors across Arabic language Level

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PERSON	Between Groups	1.535	2	.768	2.222	.110
	Within Groups	138.534	401	.345		
	Total	140.069	403			
ENVIRONMENT	Between Groups	5.006	2	2.503	6.443	.002
	Within Groups	155.770	401	.388		
	Total	160.775	403			
BEHAVIOUR	Between Groups	3.708	2	1.854	4.849	.008
	Within Groups	153.317	401	.382		
	Total	157.025	403			

With reference to table 15, a one-way ANOVA was conducted to examine the effects of all factors across Arabic language Level. The analysis shows there is no significant difference for the component person (F = 2.222, p = 0.110) across Arabic language Levels. Null hypothesis is accepted.

However, there is a significant difference for environment (F = 6.443, p = 0.002) and also behavior (F = 4.849, p = 0.008) across Arabic language Level. The null hypothesis is therefore rejected for environment and behavior.

CONCLUSION

Summary of Findings and Discussions

This study explored the dynamics of collaborative learning in Arabic language education through the lens of Bandura's (1986) Social Cognitive Theory (SCT). The findings confirm that learners maintain a highly positive perception of the triadic interaction between environmental, behavioural, and personal factors.

Environmental and Behavioural Synergy: Learners identified role clarity (M = 4.31) and structured team processes as the strongest environmental pillars. These structural elements directly support behavioural outcomes, such as collaborative conflict resolution and mutual trust. This synergy suggests that when the environment is well-defined, pro-social behaviours like passion and commitment emerge naturally.

Personal Agency and Self-Efficacy: Personal factors, specifically learner satisfaction and self-confidence, remained high across all cohorts. The data indicates that instructional quality and effective guidance are critical in fostering the self-efficacy necessary for learners to take responsibility for their own group-based progress.

The Role of Language Proficiency: A critical finding of this research is the stability of personal self-beliefs regardless of Arabic language proficiency. While environmental and behavioural perceptions varied according to language level suggesting that classroom structure and interactional dynamics are sensitive to linguistic competence students' underlying confidence in their learning capacity remained consistent. This highlights a "resilience factor" in learner self-efficacy that persists despite linguistic challenges.

Implications and Suggestions for Future Research

Theoretical and Conceptual Implications

The conceptual framework of this study reinforces and extends Bandura's (1986) SCT within the specialized context of L2 (second language) group work.

Integrated Framework: By synthesizing Bateman et al.'s (2002) environmental and behavioural constructs with Studnicka's (2023) personal dimensions, this study provides a more granular model for understanding collaborative learning.

Addressing Interdependence: The high correlations observed between variables (e.g., r = .922) are interpreted not merely as statistical overlap, but as empirical evidence of the interdependent nature of the triadic reciprocal determinism. This suggests that in a language learning environment, the person, the behaviour, and the environment are not just related, they are functionally inseparable.

Pedagogical Implications

To optimize group-based language learning, educators should adopt a holistic approach:

Structural Scaffolding: Teachers should move beyond simple grouping by explicitly defining roles and establishing clear "Team Processes." Providing a structured environment (e.g., specific goals and decision-making frameworks) acts as a catalyst for positive behavioural interactions.

Differentiated Behavioural Support: Since environmental and behavioural factors vary by proficiency, instructors should provide additional interactional scaffolding (e.g., task-specific prompts or bilingual resources)

for lower-level learners to help them bridge the gap between their high self-confidence and their practical group participation.

Learner-Centered Quality: Maintaining high instructional quality and providing diverse materials are essential for sustaining the satisfaction and self-efficacy that drive student engagement in collaborative tasks.

Suggestions for Future Research

While this study establishes a strong descriptive foundation, future research should evolve toward predictive modelling:

Methodological Evolution: Future studies are encouraged to utilize Structural Equation Modelling (SEM) to test the causal pathways within the SCT framework and further explore the high multicollinearity between factors.

Longitudinal Observation: Researchers should investigate how these perceptions change over time, perhaps through qualitative observations of specific activities like problem-solving tasks or role rotations.

Technological Integration: Examining how digital or hybrid environments influence the triadic interaction would provide valuable insights for modern language education.

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