JOURNAL FOR THE PSYCHOLOGY OF LANGUAGE LEARNING

IAPLL

Research Article

The Influence of Emergent and Assigned Leaders on Interactive Group Work Tasks in the L2 Classroom: Focusing on the Group Work Dynamics, Motivation, and Linguistic Performance

Makoto Mitsugi, *Otaru University of Commerce, Japan*

https://orcid.org/0000-0001-5256-0235

mitsugi@res.otaru-uc.ac.jp

Masahiro Yoshimura, *Ryukoku University, Japan*

https://orcid.org/0000-0002-2056-4757

m-yoshim@agr.ryukoku.ac.jp

Tomohito Hiromori, *Meiji University, Japan*

https://orcid.org/0000-0001-9102-7708

hiromori@meiji.ac.jp

Ryo Kirimura, *Ritsumeikan University, Japan*

https://orcid.org/0000-0002-6120-7991

kirimura@fc.ritsumei.ac.jp

ABSTRACT

This study compares two leadership styles, emergent leader (EL) and assigned leader (AL), to explore effective leadership in second language (L2) group work. ELs were spontaneously chosen by the group, while ALs were pre-assigned by teachers before the task. The study involved 45 university students, who were divided into seven EL groups (n = 21) and eight AL groups (n = 24). Complex dynamic systems theory (CDST) was used to explore how these leadership styles impacted group work dynamics, motivation, and task outcomes. Findings revealed that having a group leader was beneficial for task performance, regardless of the leadership style. However, the study identified qualitative differences in group work dynamics and motivation between EL and AL groups. Behaviors contributing to group work activation were more frequently observed in the AL groups. Additionally, motivation increased gradually in the EL groups, while it peaked early and remained high in the AL groups. Results suggest that pre-assigning a leader with a clear role can ensure favorable initial conditions for the group, leader, and members, while accelerating the growth of group work dynamics and motivation in short-timed group tasks. Therefore, the study provides evidence supporting the effectiveness of pre-assigning a leader in L2 group work.

Keywords: L2 group work, emergent leader, assigned leader, motivation, group work dynamics, complex dynamic systems theory

Journal for the Psychology of Language Learning
ISSN: 2642-7001
(2024) Volume 6, Issue 1. e6115624.
https://doi.org/10.52598/jpll/6/1/1

INTRODUCTION

Group work is commonly utilized in language classrooms and offers clear benefits by promoting language interaction and output through group tasks, significantly impacting language acquisition. Second language acquisition (SLA) research has demonstrated the benefits of learning in groups. For instance, the interaction hypothesis (Long, 1996) and output hypothesis (Swain, 2005) suggest that language acquisition is promoted and consolidated through meaning negotiation and awareness of linguistic errors or mistakes embedded in interaction. Researchers maintain that collaborative learning activities in the second language (L2) can improve learner motivation (Dörnyei, 1997; Dörnyei & Murphey, 2003), and that scaffolding occurs in collaborative dialogue (Swain, 2000, 2006). For these benefits of language learning in groups, language teachers often construct groups in a balanced manner according to common prerequisites, such as the number and level of L2 proficiency of learners in each group. However, teachers recognize that, in practice, learners' active engagement in group work tasks can thrive in some groups, but not in others. This fact raises several challenging questions for learning in groups: Does the difference in individual students' traits and roles change their engagement and language production in the group task? Likewise, does it change the dynamism of the group work? Ideally, teachers should individually address the needs of each group and offer encouragement to boost learners' engagement. However, this is neither realistic nor guaranteed to be sufficient. One possible solution may be to establish a learning climate where learners positively affect one another in a group setting. This argument is underpinned by the notion that the interaction among learners in a group significantly impacts their learning attitudes, and that the atmosphere of the group has a substantial impact on its members and can subvert their individual preferences and commitments (Dörnyei, 2020; Ushioda, 2003). Therefore, it is crucial to identify concrete measures that can be utilized to enhance individual learners' engagement in group tasks and strengthen group dynamics. This study takes a closer view of learner leadership in groups and aspires to resolve the challenges of implementing group tasks by a teacher in a language classroom. Moreover, this study intends to provide support for language teachers who face practical difficulties regarding implementing group tasks and forming group members.

LITERATURE REVIEW

Leadership in L2 Group Work

Group cohesion, group norms, and group leadership style are important group-level factors that correspond to individual learners in groups. Among them, leadership in groups is one of the central topics of group dynamics research in general psychology (Forsyth, 2018; Hogan & Kaiser, 2005). There is extensive research on leadership styles and their impact, but all the different accounts agree on one point: the importance of leadership (Dörnyei & Muir, 2019). In the field of group dynamics, two types of leadership in groups have been identified (Forsyth, 2018): the *emergent leader* (EL), who emerges spontaneously and is perceived as the most influential member of the group by other members, and the *assigned leader* (AL), who is assigned to a group preliminarily and appointed with a teacher-like authority (Leeming, 2019; Northouse, 2009). Looking at the connection between the field of SLA and leadership, Dörnyei and Murphey (2003) claimed that the role of EL is crucial to the class and that in most groups, EL positively influence the group and orient members to learning goals. However, they did not provide any empirical research results to support this claim, nor did they mention AL in their discussion on the importance of leadership.

In recent years, studies examining how leadership affects interactions and language learning in L2 group work tasks have gradually surfaced. Leeming and Cunningham (2012) investigated the influence of EL in L2 group work tasks designed to work together on a group poster presentation project. Results showed that members perceived as leaders by others (ELs) were much more involved in group discussions than other members. Active students sought guidance and approval from their ELs during every step of the preparation for the group poster presentation, clearly demonstrating that the ELs influenced the autonomy of individuals. Subsequently, Leeming (2016) studied how learners actually perceive the influence of EL with the participation of 81 university students learning English in Japan. Interviews with 16 students revealed that students perceived leaders (ELs) as playing an indispensable role in the group's success and strongly influencing the group members. These indicate that the presence and behaviors of the EL have somehow a positive influence on the L2 group task, and that other members are aware of this.

Leeming (2019) also examined the direct influence of EL on learners' interactions in groups to more precisely and explicitly confirm the impact of EL. Examining the interactions of different groups, he found that ELs with strong leadership encouraged interaction, reduced silence, and helped the conversation flow. Conversely, groups of ELs with insufficient leadership struggled to have conversations and had limited engagement in discussions and tasks due to a lack of mutuality. A similar result was observed in Yashima et al. (2016), who conducted a study highlighting the influence of EL on the degree of participation in L2 group discussions of 21 English as a foreign language (EFL) learners. The findings revealed that the presence of EL reduced group members' silence and encouraged them to participate more in discussions. EL tended to present ideas at the beginning of discussions and to express their opinions frequently. They also attempted to coordinate the discussion by asking questions and responding to the opinions of other students. These behaviors played a significant role in determining the success or failure of group interactions.

Although research on EL in the field of SLA is gradually increasing, the influence of AL on L2 group work remains unexplored. In this respect, Hiromori et al. (2021) is one of the few studies that attempted to place AL in groups and to investigate the influence of AL in L2 group work tasks on motivation and group dynamics. Participants comprised 90 Japanese university students divided into 17 AL groups and 13 groups without setting any leader-role learners. Groups were assigned a 20-min English writing task. The analysis was conducted with a questionnaire on changes in motivation and the quantification of members' group engagement based on transcriptions of group activities. Results revealed that the existence of a leader, whether exhibiting AL or EL, increased motivation and active interaction in the group. The authors also found that AL groups maintained high motivation from the beginning to the end of the group task.

Unraveling Group Work: A CDST Approach

Our current study applies the principles of *complex dynamic systems theory* (CDST) (Larsen-Freeman & Cameron, 2008) as a theoretical framework. The CDST perspective introduces a holistic approach that considers the combined and interactive behavior of numerous factors related to a particular situation rather than examining causal relationships between individual variables, as in traditional approaches (Dörnyei, 2020). The core characteristic features of CDST are the *initial state*, the *attractor state*, and *self-organization*. The initial state is the condition that is the starting point for a change in the system. In complex dynamic systems, where many different subsystems of a single system interact over time, even small differences in the subsystems at one point in time can affect the final outcome (Verspoor, 2015). Thus, in order to predict a particular behavior, we need to know every detail of the initial state of the subsystem (Larsen-Freeman & Cameron, 2008). Complex systems can exhibit variability and change over time. On the other hand, there are periods of intrinsic stability where changes in the system occur only due to stronger external forces. Less variability in the system indicates system stability, called the attractor state (Wind & Harding, 2020). Self-organization is then the process by which the attractor state of the system becomes stable. This process occurs when the system adapts to the changes (Larsen-Freeman & Cameron, 2008). Therefore, the CDST approach is used to identify the aspects of change occurring in a system and illuminate the initial condition (which is a crucial factor in shaping the system), what stable and persistent patterns the system demonstrates, and what phenomena are observed in the process of that pattern emerging (Larsen-Freeman & Cameron, 2008). Given the application of CDST to SLA, even more research on systematic interventions should be conducted (Byrne & Callaghan, 2014). However, most CDST-based studies have been carried out for exploratory and descriptive purposes. Markedly few studies have investigated how to intervene in the complex dynamic reality of the phenomenon and how it affects the system (Hiver et al., 2021). There is also a need to develop research methodologies and tools regarding systematic interventions from the perspective of CDST (Hiver & Al-Hoorie, 2020; Osberg & Biesta, 2010).

The innovative study by Poupore (2018), particularly noted for its methodological approach, has been acknowledged for its empirical contribution to the field of language learning research through the use of CDST (Hiver et al., 2021). In approaching the aforementioned issues in language learning research, Poupore utilized several strategies to understand group dynamics and complexity in L2 group work activities. He adopted the CDST perspective to analytically compare the performances of two groups

working on a task, with performance measured using the Group Work Dynamic (GWD) measuring instrument, which quantifies the component of interaction in group work. One group scored highly, while the other scored relatively low. In comparing the results for each group, Poupore identified key factors for the success of the group with high GWD scores, namely that the initial condition toward the task helped establish a positive and stable GWD pattern as the attractor state.

Yashima et al. (2016) and Hiromori et al. (2021) also adopted the CDST perspective as a theoretical framework. Yashima et al. defined the phenomenon of silence in group discussions, which is characteristic of Japanese EFL classrooms, as an attractor state that occurs in groups as a system. They provided an example of dynamic system adaptation to contextual change insofar as the students who had previously been less vocal became more talkative than usual when a student who had demonstrated leadership in the amount of talk was absent. Meanwhile, Hiromori et al. demonstrated that it was feasible to design the group work by intentionally assigning leadership-roles and facilitating group work dynamics. They also found that the group as a system adapts to the absence of a leader, and that the initial state of motivation is important for the group irrespective of the leader's presence.

Our current study holds significance as it adopts the CDST perspective. Rather than linear relationships between pre-determined variables, group work exhibits complex, context-dependent processes involving various factors and elements, including the climate of each group, behavior of both EL or AL and members, different degrees of member involvement in the learning activities, and the task engaged in by the group. Moreover, as mentioned before, there is a need for criteria for developing and evaluating these systematic interventions, which are sensitive to the numerous context-dependent and interactive characteristics of the interaction (Hiver et al., 2021). Therefore, this study responds to the call for systematic interventions from the CDST perspective and contributes to the development of research methodologies and tools.

The Present Study

Previous studies have shown that the presence of a leader can positively influence levels of participation, interaction, and motivation in L2 group work tasks. However, further research on this topic remains necessary for the following reasons. The positive impact of leadership on group work dynamics is gradually becoming apparent even though the number of studies is limited. Given the implications of this discovery for the field of L2 education, that there is no accumulated research on this topic is unfortunate. To explore better use of leadership in L2 group work, it is necessary to expand the practical options to take into account not only EL but also AL. With that in mind, the discussion needs to be expanded to include how each leadership style mediates and influences group dynamics and motivation in group work. Furthermore, given that there has not been much discussion on whether the impact of ELs and ALs on group dynamics has any effect on the linguistic performance produced through group work, further investigation is warranted.

In the present study, we looked at the influence of the different leadership styles of ELs and ALs on L2 group work tasks from the following three aspects. First, we started by exploring the dynamics of group work during the task. We employed a measurement tool to quantify and visualize these dynamics, enabling us to pinpoint differences in behavioral characteristics and levels of group work activation between EL and AL groups. Next, we examined the learners' motivational intensity during the task over time and analyzed the differences in task motivation among EL and AL group leaders and members in terms of motivational changes. Finally, we examined linguistic performance by investigating the results of collaborative writing tasks. We scored the writings using a rubric developed for this study and analyzed whether there were differences in the linguistic performance of the EL and AL groups. Moreover, we examined leadership in learning groups and the impact on English learning from a holistic perspective and using CDST as a lens to obtain more practical insights for language teachers on group formation in L2 classroom. Therefore, this study addresses the following research questions:

> (1) To what extent do group work dynamics, motivational intensity, and linguistic performance (English writing scores) on group work tasks differ depending on whether an EL or AL leadership style is adopted?

(2) What system elements or patterns can be defined from the CDST perspective through educational interventions on leadership in L2 group writing task?

METHOD

Participants and Settings

This study's population consists of Japanese university students, aged 18 to 21, enrolled at two distinct universities in Japan. Among the participants, 36 were English majors from a private university, while 42 were Commerce students from a national university. Based on their scores from the Test of English for International Communication Listening & Reading Test (TOEIC® L&R Test), the students' English proficiency ranged from A2 to B1, as per the Common European Framework of Reference for Languages (Council of Europe, 2001). While seven of these students have studied abroad in an English-speaking country for approximately a year, the rest have not had more than six months of study abroad experience. The researchers employed a convenience sampling method in this study, selecting participants based on their easy accessibility and geographical proximity.

To form groups, we pre-selected ALs from the entire group of participants, assigned leadership roles to suitable participants based on their behavior, orientation toward group work, and intrinsic motivation, and randomly classified non-leader participants as EL or AL group members. We had 14 AL groups, each with 42 participants, and 12 EL groups, each with 36 participants. Before starting the activity, we instructed the 14 ALs to lead the group discussion, make positive comments, and support the group members (see Appendix A). To ensure that identifying the presence of a leader could be used as a criterion for group selection and exclude AL groups without a perceived leader from the analysis, we instructed the ALs not to reveal their leadership roles to other members. To reduce unnecessary burden and psychological pressure, we informed the ALs that they would not be held responsible if their group work did not go well. The leadership intervention was kept confidential from all participants except the ALs.

The study was conducted online due to the COVID-19 pandemic, with teachers using the breakout room function in Microsoft Teams or Zoom. Participants discussed a four-panel picture story (Mori & Struc, 2019, see Appendix B) in English only and described the story in writing without using dictionaries or the Internet, for 20 min. The teacher waited in the main room unless the students reported a problem or asked for assistance.

Data Collection and Analysis

GWD Measuring Instrument

All group work was videorecorded using the recording function embedded in Microsoft Teams or Zoom. All video files were collected after all the groups in each class had completed the activity; files were later transcribed for quantification. Transcribed data were calculated based on Poupore's (2016, 2018) GWD measuring instrument (Table 1). The instrument was divided into four categories, namely, positive and negative, each containing a verbal and a non-verbal section. To adapt the instrument to an online setting, we removed some items from the non-verbal section, including "touching" (weight: 2), "leaning (toward another group member)" (weight: 1), "speaker eye contact" (weight: 0.20), "listener eye contact" (weight: 0.15), "speaker non-eye contact" (weight: 0.15), and "listener non-eye contact" (weight: 0.05).

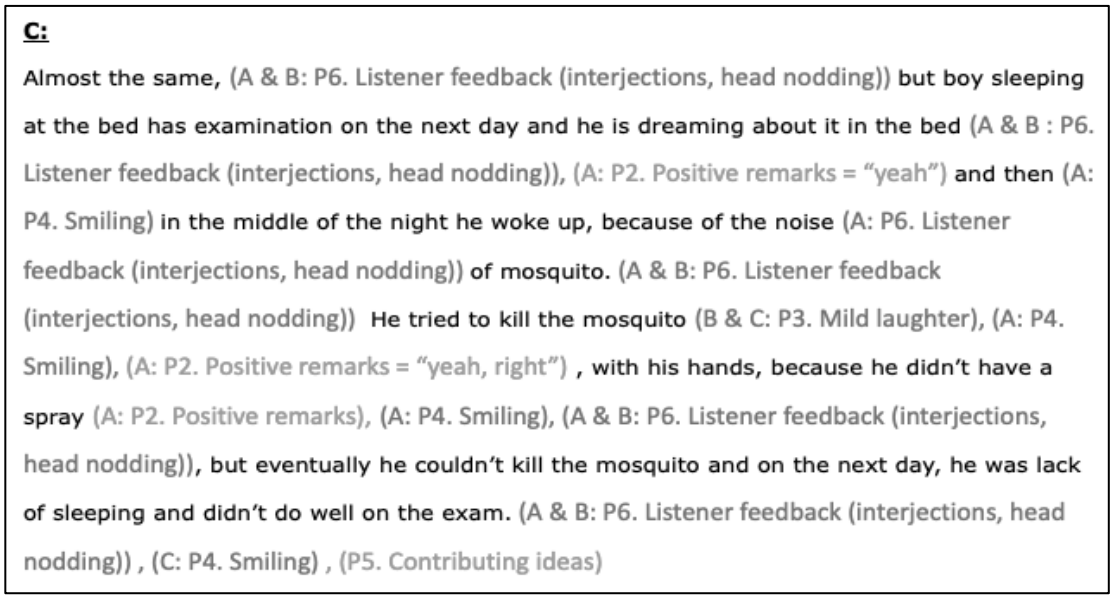
After transcribing all the linguistic interactions during the task, we calculated the GWD scores using the measuring instrument. We counted all the remarks in the GWD list (Figure 1), entered them into spreadsheets, and applied the necessary calculations (Figure 2). Poupore (2016, 2018) initially assigned numerical weights to different characteristics since they have varying degrees and frequencies of impact on group work tasks, and this study followed suit. We used the GWD score of the EL/AL groups to compare the two leadership groups and to indicate how the group work was activated. Inter-rater reliability was calculated as [total number of verbal and non-verbal GWDs – number of discrepancies] / total number of verbal and non-verbal GWDs = [4,999-174]/4,999. This resulted in a value of 0.97. Regarding the points of disagreement among the raters in the calculation of the GWD score, further discussions were held until an agreement was reached.

Table 1. *List of Positive/Negative GWD Characteristics (Based on Poupore, 2016, 2018)*

Positive GWD		Negative GWD	
Characteristic	Weight	Characteristic	Weight
Verbal		*Verbal*	
P1. Leadership direction	3	N1. Negative remarks	3
P2. Positive remarks	3	N2. Decision without checking for agreement	3
P3. Jokes	3	N3. Sarcastic or cynical humor	3
P4. Providing help	3	N4. Saying something but being ignored	3
P5. Contributing ideas	2	N5. Incoherent responses	2
P6. Asking for others' ideas	2	N6. Irrelevant responses	2
P7. Asking for clarification	1	N7. Rushing the task	2
P8. Asking for help	1	N8. Foul language	2
		N9. Refusing or avoiding to share ideas	2
Non-Verbal		N10. Impersonal responses	1
P1. Clapping hands	3	N11. Superiority responses	1
P2. Loud laughter	2.50	N12. Cutting a speaker off	1
P3. Mild laughter	1.25	N13. Overlap talk	0.30
P4. Smiling	1	N14. Off-task talk (30s or more)	*
P5. Gestures of excitement, interest, or focus	0.75	N15. Group member exclusion	**
P6. Listener feedback (interjections, head nodding)	0.25	*Non-Verbal*	
P7. Hand gestures when speaking	0.20	N1. Yawning	2
		N2. Sighing	2
		N3. Negative sounds	1
		N4. Negative gestures	0.75
		N5. Negative laughter and/or smile	0.50
		N6. Pausing (10s or more)	***

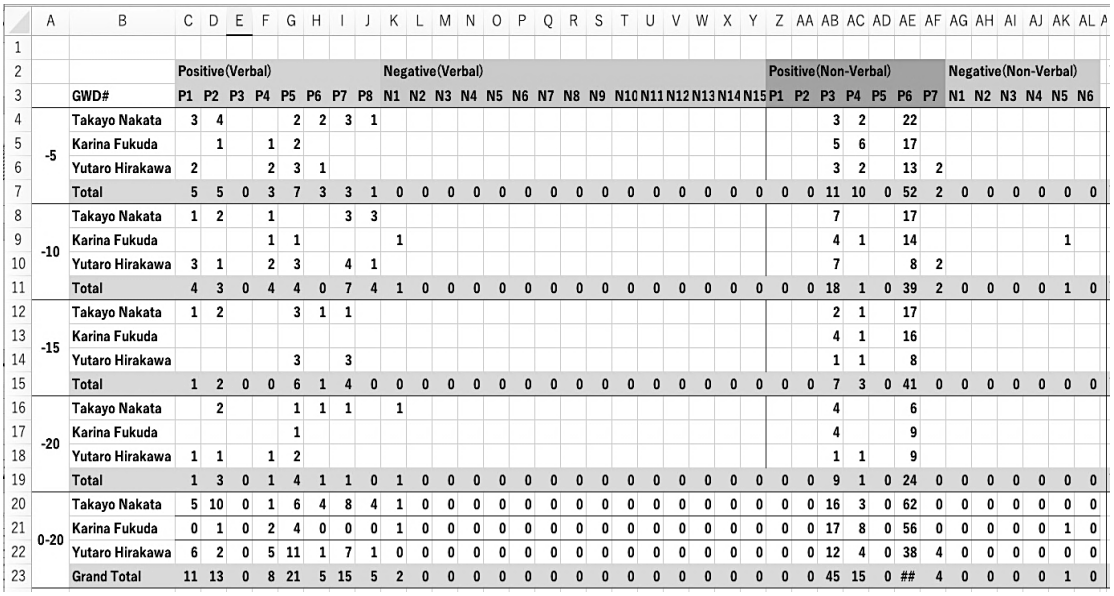
Note. GWD = group work dynamic. *Off-task talk of 30–34s = 3, 35–39s = 3.5, etc. ** Exclusion of 1–20s = 3, 21–40s = 6, etc. ***Pauses of 10–12s = 2, 12–14s = 3, etc.

Figure 1. *Example of the Identification Process for Behaviors on the List of GWD Characteristics*



Note. P and the number represent each of the Positive GWD Characteristic items listed in Table 1.

Figure 2. *Example of the Calculation Process of GWD Scores in Each Group*



		Positive(Verbal)								Negative(Verbal)																	Positive(Non-Verbal)							Negative(Non-Verbal)						
	GWD#	P1	P2	P3	P4	P5	P6	P7	P8	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12	N13	N14	N15	P1	P2	P3	P4	P5	P6	P7	N1	N2	N3	N4	N5	N6
-5	Takayo Nakata	3	4			2	2	3	1																		3	2		22								
	Karina Fukuda		1		1	2																					5	6		17								
	Yutaro Hirakawa	2			2	3	1																				3	2		13	2							
	Total	5	5	0	3	7	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	10	0	52	2	0	0	0	0	0	0
-10	Takayo Nakata	1	2		1			3	3																		7			17								
	Karina Fukuda				1	1				1																		4	1		14						1	
	Yutaro Hirakawa	3	1		2	3		4	1																		7			8	2							
	Total	4	3	0	4	4	0	7	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	1	0	39	2	0	0	0	0	1	0
-15	Takayo Nakata	1	2			3	1	1																			2	1		17								
	Karina Fukuda																										4	1		16								
	Yutaro Hirakawa					3		3																			1	1		8								
	Total	1	2	0	0	6	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	3	0	41	0	0	0	0	0	0	0
-20	Takayo Nakata		2			1	1	1		1																	4			6								
	Karina Fukuda					1																					4			9								
	Yutaro Hirakawa	1	1		1	2																					1	1		9								
	Total	1	3	0	1	4	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	24	0	0	0	0	0	0	0
0-20	Takayo Nakata	5	10	0	1	6	4	8	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	3	0	62	0	0	0	0	0	0	0
	Karina Fukuda	0	1	0	2	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	8	0	56	0	0	0	0	0	1	0
	Yutaro Hirakawa	6	2	0	5	11	1	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	4	0	38	4	0	0	0	0	0	0
	Grand Total	11	13	0	8	21	5	15	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	15	0	##	4	0	0	0	0	1	0

Note. All student names are pseudonyms.

Motigraph and Group Cooperation

Immediately after completing the task, the students plotted their motivational state on a 5-point Likert scale every 5 min while looking back on the 20-min task to create a *motigraph* (Hiromori et al., 2021), which represented their motivational intensity during the task. Next, we analyzed the motigraphs to compare the motivational change of leaders and other members in EL/AL groups.

The students filled out a brief questionnaire intended to evaluate their level of group cooperation, utilizing a 5-point Likert scale. The statements they rated included: "The group worked together cooperatively," "Roles were assigned to each group member," and "The goal of the assignment was clear within the group." These three items had a Cronbach's alpha reliability coefficient of .75. This questionnaire was developed, incorporating insights from previous studies (e.g., Dörnyei & Murphey, 2003; Storch, 2013). Prior to its application in the current study, it was piloted with a group of Japanese university students (Hiromori et al., 2021). Independent sample *t*-tests were conducted to compare chronological changes in motivation and attitudes toward group cooperation during the task.

Identification of Groups with Leaders

As the perception of the presence or absence of a leader was crucial in this study, students were asked whether any members of their group had demonstrated leadership and the names of these members. Before we could specifically analyze leadership, it was necessary to select EL and AL groups for analysis. Among all groups, we identified those with a consistent perception of the group leader. Thus, seven of the 12 EL groups (58.3%) and eight of the 14 AL groups (57.1%) were identified; accordingly, the former was analyzed as the seven EL groups and the latter as the eight AL groups. Therefore, the EL/AL groups selected for analysis were those where one student was "clearly" perceived as a leader by two other members (see Appendix C). Initially, we considered including a third group (non-leader group) in the analysis. However, as only one group corresponded to this group, we decided against conducting a three-group analysis.

English Writing Scores

The English writings that students worked on during the group activity were collected to assess their linguistic performance as a group. We evaluated and scored the writing tasks using a rubric, specifically developed for this study and based on Jacobs et al. (1981) and Shehadeh (2011).

The rubric comprised the following dimensions: (1) content (the content is appropriately described and relevant to the illustration); (2) organization (the order and development of the story are appropriate and easy to understand); (3) vocabulary (the word/idiom choice is accurate and mastery of word forms is demonstrated); (4) grammar (relatively complex sentence structures are accurately used with few grammatical errors in agreement, number, tense, word order, articles, pronouns, and prepositions). These four items were rated on a scale ranging from 0–10 points: Excellent to very good (8–10 points), good to average (5–7 points), fair to poor (2–4 points), and very poor (0–1 point). For an effective score, one researcher randomly selected a group and scored it. Thereafter, the four researchers then attempted to reach a consensus on the evaluation to ensure consistency in the evaluation criteria. After the researchers reached a common understanding, they re-scored the writing tasks of all EL/AL groups in pairs. In doing so, two researchers scored each group, and the final scores for individual groups were calculated using the average of the two researchers' scores.

Focus Group Interview

Focus group interviews were conducted with each of the four selected AL groups (12 students in total) that were considered to have worked well together as a group based on their GWD scores. The interviews were conducted in a semi-structured way based on questions prepared in advance (see Appendix D). Two researchers shared two groups, with each group using either Microsoft Teams or Zoom to conduct interviews, and each interview lasted approximately 30 min. The interview data were then transcribed and examined by researchers to identify specific behaviors and statements to gain insights into each AL and group members' perceptions of leadership roles, motivation, and group work. Although we did not use a specific qualitative analysis method in this study, we conducted the interviews to determine the impact of the intervention on AL and the impact of AL's supportive efforts on its members.

RESULTS AND DISCUSSION

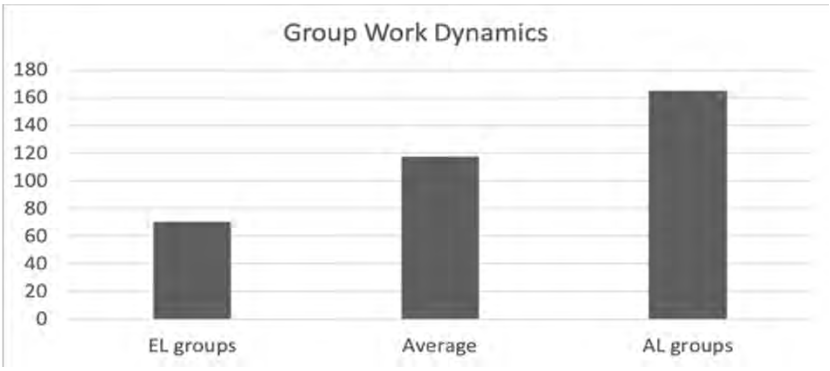
Group Work Dynamics

We sought to clarify whether group work dynamics during the group task differed depending on the type of leadership employed. For this, we calculated the GWD scores and compared the EL and AL groups with the average scores. Figure 3 and Table 2 outline the differences in average scores between the EL and AL groups. The average score for all 15 work groups was 117.56 points, with the EL groups below average at 70.23 points and the AL groups scoring above at 164.88 points. In terms of positive characteristics, the EL group scored 96.71 points, and the AL group scored 199.19 points. Notably, subtracting the number of EL groups from the higher scoring AL groups yielded a total of 102.48 points, with AL groups scoring more than twice as many positive scores as the EL groups. There was no apparent difference in negative characteristics, but the AL group scored slightly higher.

As this difference in positive GWD scores was not negligible, it was necessary to analyze the behaviors of the leaders and members in each group to identify the factors behind these differences. Accordingly, we selected the positive characteristics for comparison; we focused on verbal aspects because before-group-task ALs were given a written instruction that consisted only of positive verbal characteristics listed in the GWD measuring instrument. This list had guidelines for specific actions to motivate group members. Thus, we sought to observe the impact of ALs on groups and group members with a focus on developing intentional interventions.

Table 3 shows the differences in results for each GWD characteristic; the numbers represent the average GWD scores for ELs and ALs, and the items with the three largest differences in score are highlighted in bold. Each of the three highlighted items accounts for more than 20% of the total difference. For all but one of the items, ALs showed more positive behaviors than ELs. A total difference of 37.63 points indicated that ALs provided 32% more positive behaviors than ELs.

Figure 3. *Average GWD Scores for AL and EL Groups, and Average Score for all 15 Groups*



Note. EL = emergent leader, AL = assigned leader.

Table 2. *Differences in Average GWD Scores for AL and EL Groups*

GWD characteristics	EL groups (*n* = 7)	AL groups (*n* = 8)	Difference
Positive characteristics	96.71	199.19	102.48
Negative characteristics	26.48	34.31	7.83
Total	70.23	164.88	94.65

Note. GWD = group work dynamic; EL = emergent leader, AL = assigned leader.

Table 3. *ELs and ALs' Average GWD Scores for Positive Verbal Characteristics*

GWD characteristics	ELs (*n* = 7)	ALs (*n* = 8)	Differences
P1. Leadership direction	**12.00**	**22.13**	**10.13**
P2. Positive remarks	**4.71**	**15.00**	**10.29**
P3. Jokes	0.00	1.13	1.13
P4. Providing help	4.71	3.75	0.96
P5. Contributing ideas	14.00	15.50	1.50
P6. Asking for others' ideas	**2.29**	**11.25**	**8.96**
P7. Asking for clarification	1.86	5.38	3.52
P8. Asking for help	0.43	3.50	3.07
Total	40.00	77.63	37.63

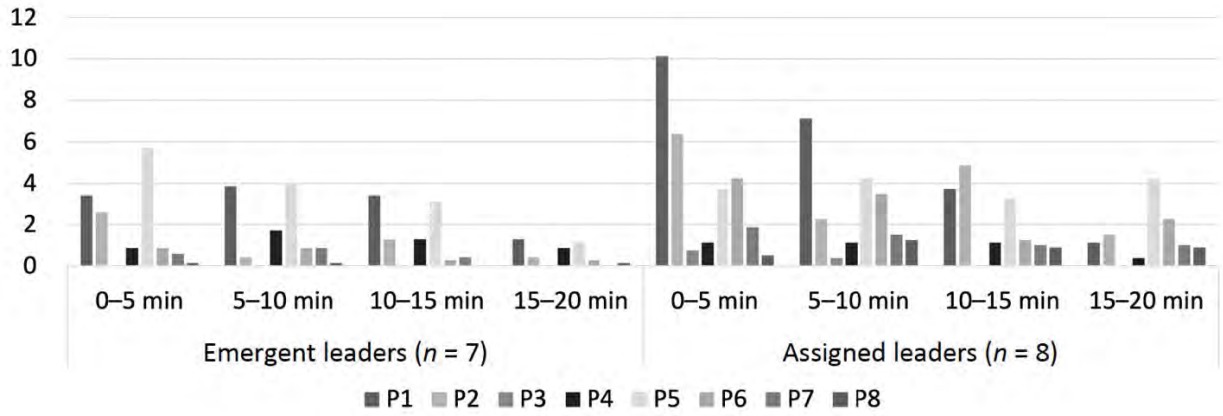
Note. GWD = group work dynamic, EL = emergent leader, AL = assigned leader. The three items with the largest differences in score are highlighted in bold.

Regarding how ALs demonstrated leadership, the highest score for ALs was 22.13 in P1 (Leadership direction), with typical examples that included "Alright, so let's get started," "Yes, let's first think about the first picture," and "If you have nothing to add, let's move on to write them down." This shows that the ALs were actually trying to play their leadership role. Indeed, they were assigned their roles in advance and were highly aware of the

need to fulfill this role. Poupore (2018) compared two groups: one with high GWD scores (Group 1, total GWD score of 427.62 points) and one with low GWD scores (Group 2, total GWD score of 91.15 points). In this respect, Group 1 scored 36.87 points for P1 (Leadership direction), while Group 2 scored 50.47 points here. The AL groups with higher total GWD scores obtained 20% more points in P1 (Leadership direction). This finding indicates that pre-assigning leaders and guiding them to take leadership roles contributed to the increase in L1 (Leadership direction) behaviors, and thus, activated group work.

Figure 4 shows the GWD scores of the ELs and ALs at different time points, illustrating that ELs moderately directed the group toward task completion. They were aware of the need for this behavior because P1 (Leadership direction) was their second largest score. However, their primary focus was on providing ideas for task completion, with the characteristic that was observed throughout the task. Nonetheless, this was not a distinguishing feature of ELs, as ALs did this to almost the same degree. On the contrary, ALs consistently directed the group toward task completion because P1 (Leadership direction) was their largest score, which is evident in the first half (0–10 min) of the group task.

Figure 4. *ELs and ALs' Average GWD Scores for Positive Verbal Characteristics at Different Time Points*



Note. P1 = Leadership direction, P2 = Positive remarks, P3 = Jokes, P4 = Providing help, P5 = Contributing ideas, P6 = Asking for others' ideas, P7 = Asking for clarification, P8 = Asking for help.

The average GWD scores of ELs and ALs also differed in P2 (Positive remarks) and P6 (Asking for others' ideas). The typical examples of P2 (Positive remarks) were almost remarks expressing agreement or acceptance of members' opinions, such as "Nice," "I agree," and "Yeah, I think that's a good idea." For the other P6 (Asking for others' ideas), they were "How about you?," "Karina, do you have any idea?," and "Do you think there is anything else in this picture?" These results indicate that ALs not only enhanced the task engagement of group members but also actively worked together within the group to accomplish the task, while effectively fulfilling their roles as leaders. Indeed, there were references to this point in the interview. In response to the interview question, one AL responded to the question, "Is there anything in particular that you were consciously working on as a leader?" by expressing an idea in the following terms:

> First, we need to share what we are going to do with everyone. The other thing is to make opportunities for everyone to express their opinions. I felt there was no point in being a leader unless everyone participated. So, I tried to do, like, if [one AL member] says something, then [the next AL member] shall say something, and so on, so that everyone could participate.

Similarly, in response to the interview question, "Were there situations where you felt motivated or demotivated by the reactions you received from other members?", one AL member responded, "I was glad that when I expressed my opinions and suggestions in English expressions, they

sympathized with me and said that those were very good" as the situations in which motivation increased. Like this example, mutually positive interactions between leaders and members were often observed in AL groups. Besides, AL often demonstrated that positive and accepting behavior to other members gave them confidence that they would not be shamed, rejected, or punished for speaking up, and perhaps there was a shared belief among the members that their group was a safe place to take interpersonal risks, a state of "psychological safety" (Edmondson, 1999).

Thereafter, we confirmed the EL and AL group members' GWD scores for positive verbal characteristics to determine how the different leadership affected the behaviors of other group members. Table 4 presents EL and AL group members' average GWD scores for positive verbal characteristics, while Figure 5 shows the GWD scores of the EL and AL group members at different points in time. In Table 4, the three items with the largest differences in score have been highlighted in bold. The average scores of AL group members exceeded EL group members for all items except one. AL group members' total score was approximately 1.8 times higher than EL group members. P5 (Contributing ideas) was the most frequently observed behavior among both EL and AL group members (e.g., "Can I change the order of the sentence? So, I want to change it into – he tried to catch the fly by his hands because he didn't have insecticide spray."). The frequency of this behavior indicates that members who did not identify themselves as a leader engaged in the group work by offering their opinions.

Table 4. *EL and AL Group Members' Average GWD Scores for Positive Verbal Characteristics*

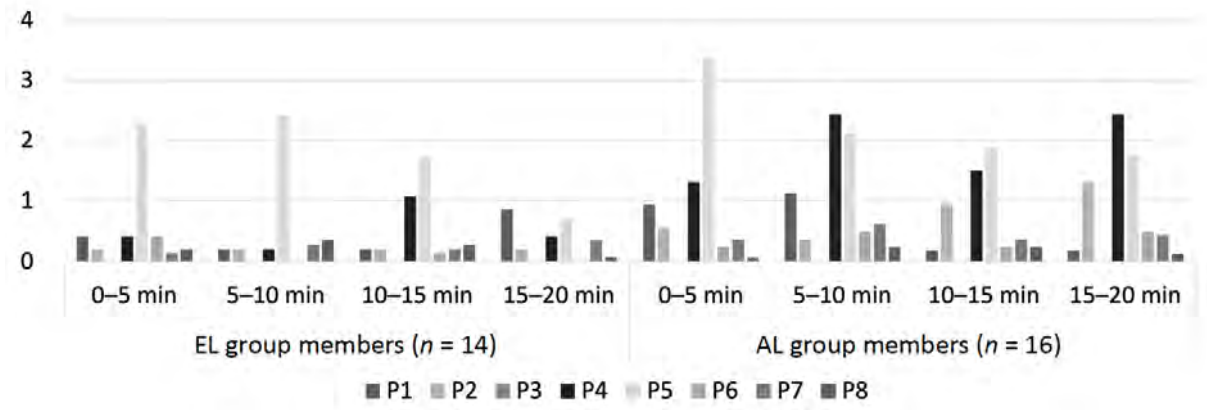
GWD characteristics	EL group members (n = 14)	AL group members (n = 16)	Differences
P1. Leadership direction	1.71	2.44	0.73
P2. Positive remarks	**0.86**	**3.19**	**2.33**
P3. Jokes	0.00	0.00	0.00
P4. Providing help	**2.14**	**7.69**	**5.55**
P5. Contributing ideas	**7.14**	**9.13**	**1.99**
P6. Asking for others' ideas	0.57	1.50	0.93
P7. Asking for clarification	1.00	1.81	0.81
P8. Asking for help	0.93	0.69	0.24
Total	14.36	26.44	12.08

Note. GWD = group work dynamic, EL = emergent leader, AL = assigned leader. The three items with the largest differences in score are highlighted in bold.

P4 (Providing help) was the second most frequently observed characteristic among EL and AL group members. We observed a mutually supportive interaction with other members, for example by providing support when one member was struggling to identify the appropriate English words or phrases. The difference in P2 (Positive remarks) indicates positive interaction and engagement among group members, including encouraging each other to share their opinions. Storch (2002) classified patterns of interaction in pair work in terms of "equality" and "mutuality," which can probably be adopted in the similar way for groups. The AL group may have been in a state of exceptionally high mutuality qualities. Task performance is not always successful when one of the group members is assertive and does not listen to others, even if they are highly motivated. However, if there is mutuality among learners, good-quality interactions are likely to occur, such as listening attentively to others' ideas and offering alternatives to proceed with a discussion.

On the other hand, like ELs, EL group members contributed to the group by providing their ideas, indicating that these groups demonstrated group dynamics based on the sum of individual contributions. It also indicates that ELs and members were less conscious of group interactions and cooperation than AL groups. EL group members showed few contributions other than providing their ideas throughout the group activity, as seen in the GWD behaviors over time.

Figure 5. *EL and AL Group Members' Average GWD Scores at Different Time Points*



Note. EL = emergent leader, AL = assigned leader. P1 = Leadership direction, P2 = Positive remarks, P3 = Jokes, P4 = Providing help, P5 = Contributing ideas, P6 = Asking for others' ideas, P7 = Asking for clarification, P8 = Asking for help.

AL group members generated ideas and supported members when necessary—exhibiting dynamics predicated on the interaction between AL group members. Interestingly, even during the last 5 min of the task, members' contributions to the group did not decline. It may be because ALs performed various behaviors that encouraged their group members, likely facilitating group dynamics as one AL group member mentioned during their interview as following:

> I was able to get a direction from the leader that we should proceed with the group work by all expressing our opinions, so I did it. I was able to think about doing group work in such an atmosphere because the leader naturally created that kind of atmosphere for us.

Hence, it is conceivable that the Als' effective attitudes toward group cooperation may have led AL group members to exhibit more assertive group cooperation behaviors than EL group members. However, whether the leader "actually shows" such behaviors to increase the level of cooperation within the group remains important in such a group climate.

The comparison in GWD scores of ELs and ALs reveals that P1 (Leadership direction), P2 (Positive remarks), and P6 (Asking for others' ideas) were more frequently observed in AL groups. This finding can be attributed to the fact that these leaders were appointed in advance and assigned to each group, with significant differences observed in the behavior of ELs and ALs. Such characteristics were observed most frequently at the beginning of the task (0–5 min), as illustrated by the graph of GWD scores at different time points visualizing the process of group self-organization. A similar tendency was observed by Hiromori et al. (2021), who found that the initial state of leaders affects the GWD behaviors provided by the group. Therefore, even from the CDST perspective, it can be argued that the intentional intervention of pre-assigning a leader has the potential to induce a positive attractor state in the process of self-organization in the system of group activities. Thus, pre-assigning leaders and explicitly indicating how they should behave may prompt and shape positive GWD outcomes in a series of group work systems.

Motivation

We investigated if motivational intensity during the group task differed depending on EL or AL leadership style. Independent-samples *t*-tests were conducted to determine whether there were any statistically significant differences between the two groups in terms of motivational changes during group activities over time (i.e., 0–20 min), as well as in group attitudes toward group cooperation. The significance level for motivation was set at $\alpha = .0083$ by Bonferroni's adjustment, and group cooperation was set at $\alpha = .05$. Table 5 presents the descriptive statistics and *t*-test results regarding motivation levels and group cooperation. No significant differences were observed between the groups in terms of group motivation levels at different points in time. In contrast, participants in the AL groups displayed higher group cooperation ($M = 4.33$) than those in the EL groups ($M = 3.76$). This difference was statistically significant ($t = 2.75$, $p = .01$, $d = 0.82$).

Table 5. *Means, Standard Deviations, and T-Test Results for Motivation Levels and Group Cooperation*

Measure	EL groups (n = 21)		AL groups (n = 24)		t	p	d[a]
	M	*SD*	*M*	*SD*			
Motivation (0 min)	3.10	1.64	3.67	1.05	1.37	.18	0.42
Motivation (5 min)	3.95	1.07	4.38	0.65	1.63	.11	0.49
Motivation (10 min)	4.14	1.28	4.46	0.78	1.02	.32	0.30
Motivation (15 min)	4.29	0.85	4.67	0.66	1.63	.11	0.50
Motivation (20 min)	4.00	1.33	4.26	1.33	0.61	.55	0.20
Group Cooperation	3.76	0.80	4.33	0.59	2.75	.01	0.82

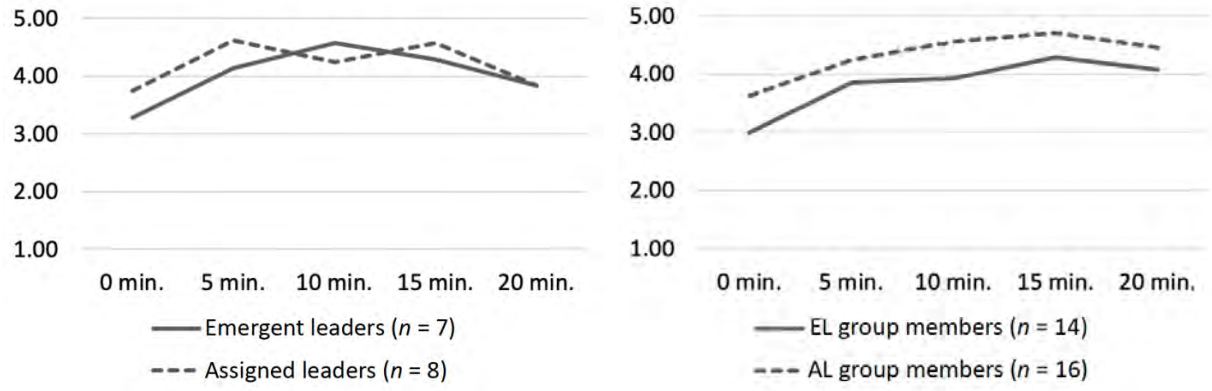
Note. EL = emergent leader, AL = assigned leader. [a] Effect size (Plonsky & Oswald, 2014): $d = .40$ (small effect), $d = .70$ (medium effect), and $d = 1.00$ (large effect).

Analysis of motivation levels showed that students in both groups had relatively low levels of motivation at the beginning of the task ($M = 3.10$ and 3.67, respectively), but that this gradually increased over time. Mean motivation levels for the EL groups were consistently around 4 and remained at that level. AL groups had a mean motivation level as high as 4.67 (max. value 5), 15 min after beginning the task. These results suggest that both groups could engage in the 20-min group task with relatively high levels of motivation. A good group climate was likely maintained by the presence of a leader in both EL and AL groups. Thus, the EL group leaders who emerged on the spot encouraged the group members, while the AL group leaders fulfilled their pre-assigned role of motivating the group members to successfully complete the group task.

To compare the changes in motivation over time between ELs and ALs, and between EL and AL group members, we divided the analysis into leaders and members in each of the EL and AL groups. Figure 6 presents the changes in the motivation level of ELs/ALs and EL/AL group members. EL group leaders did not exhibit high motivation from the outset; their motivation increased from the midway point before gradually declining. On the other hand, the ALs peaked at the beginning of the group work and maintained a higher level of motivation until the end. Meanwhile, regarding the changes in motivation in EL and AL group members, while EL group members were less motivated at the beginning, their motivation gradually and continually increased until the end. In contrast, AL group members showed a moderate degree of motivation at the beginning, which increased over time and declined again toward the activity's end. Nonetheless, AL group members maintained a relatively high level of motivation, and which was greater than that of EL group members throughout the group work activity. Moreover, EL group members took more time to

reach their highest level of motivation than AL group members.

Figure 6. *Motigraphs Describing Changes in the Motivation Levels of ALs/ELs and AL/EL Group Member*



Note. EL = emergent leader, AL = assigned leader.

Assigning leadership roles in advance as we did for ALs may have resulted in assigned leaders starting the task with a higher level of motivation. Hence, results show their motivation peaked early and was maintained until the end of the group work activity. Indeed, in response to the interview question, "Was there anything in particular that you (the leader) were consciously working on during the group work?," one of the ALs claimed remarks to initial motivation at the beginning of the task, stating, "I felt that since we were going to do this task, I had to pull them along. Even though I am not very good at English, I wanted to motivate the members with cheerful attitudes that I am good at."

While the motivation of EL group members increased, they were slower to reach peak levels than their leaders. Using a car engine as a metaphor, the EL requires idling time, and the EL group members riding in that idling car take more time to be motivated. As Fernández Dobao (2012) noted, collaborative tasks inevitably take longer to complete than individual tasks because collaborators need to reach an agreement before task completion. Hence, the EL group may have needed time to reach an implicit agreement on who would take the leadership role in completing the task. It is also likely that the EL group leaders did not consciously adopt a clear leadership role but sought to foster a learning climate at the beginning of the task. Accordingly, it may have taken time for both EL group leaders and members to become fully motivated. In contrast, the motivation of AL group members increased to the same level as the leaders in the early stage of the activity and remained high until the end. The AL starts with the engine warmed up from the beginning, and because AL group members are riding in a car with an already warmed engine. Influenced by the motivational characteristics of the AL leader, they tended to increase their motivation sooner.

From the CDST perspective, the initial condition of the system among ALs and AL group members was a relatively high state of motivation at the beginning of the group work, which was maintained until the end of the activity. That is, the group dynamics remained consistent throughout the activity and reflected a stable pattern as an attractor state. Further, results indicate a relatively predictable and positive attractor state in which assigning a leader in advance facilitates the formation of a favorable and motivational initial condition in the group, thereby maintaining a high level of group motivation throughout the activity. Besides, there appears to be a substantial relationship between this finding and the fact that the ALs' GWD scores, particularly P1 (Leadership direction) and P2 (Positive remarks), were initiated from a high state. Waninge et al. (2014) noted the importance of initial motivation when learners enter a particular language lesson, as the stable trajectory of learner motivation depends on initial conditions. In light of this, it is vital for teachers to prepare in advance for their classes,

ensuring the success of group work by reminding supposed leaders to act in ways that motivate their group members. Our current study reiterated the importance of the teacher's investment before class.

Linguistic Performance

We evaluated and scored the written work submitted by all groups: seven EL and eight AL groups. Table 6 presents the descriptive statistics and *t*-test results for the scores that EL and AL groups received for their written work. The significance level was set at $\alpha = .01$ by Bonferroni's adjustment. The results showed that the average score for the AL group increased in all the four different evaluation items (i.e., content, organization, grammar, and vocabulary) and in the overall scores. However, there were no significant differences between the EL and AL groups regarding all items and overall scores (Table 6). Results thus demonstrate that in short 20-min group tasks, there was no difference in performances based on leadership style, that is, whether group leaders were assigned prior to the task or emerged during group work.

Table 6. *Descriptive Statistics and T-Test Results for EL and AL Groups' Writing Task Scores*

Measure	EL groups (n = 7)		AL groups (n = 8)		t	p	d^a
	M	*SD*	*M*	*SD*			
Content (0–10)	6.29	1.85	7.06	1.59	0.88	.40	0.45
Organization (0–10)	5.79	1.47	6.63	0.92	1.35	.20	0.70
Grammar (0–10)	5.79	1.11	6.56	0.94	1.47	.17	0.75
Vocabulary (0–10)	4.43	1.06	5.50	1.56	1.53	.15	0.79
Total Score (0–40)	22.21	5.15	25.75	4.60	1.41	.18	0.73

Note. EL = emergent leader, AL = assigned leader. [a] Effect size (Plonsky & Oswald, 2014): $d = .40$ (small effect), $d = .70$ (medium effect), and $d = 1.00$ (large effect).

It became clear that even if learners who aim for better group work and have psychological states, such as motivation towards group work, this study showed that a one-time, short-duration group writing task did not directly linked to any difference in linguistic performance. DeKeyser (2001, 2007) summarized SLA as skill acquisition by emphasizing the importance of practice and automatization in language learning. In this perspective, L2 learning involves developing a set of linguistic skills through practice, which gradually become automated through repeated exposure and use. This may also be applicable to L2 learning in groups, and by continuous and long-term efforts in group, learning with peers from various aspects will be smoother (although the opposite is also true). Therefore, it is necessary to evaluate the achievements of language performance from a long-term perspective taking into account such aspects.

CONCLUSIONS

This study expands on previous research on leadership in L2 group work tasks with a focus on EL, to include the effects of AL. It demonstrated how leadership settings, roles, and behaviors impact group dynamics and the motivation of group leaders and members. Regarding the first research question, AL groups exhibited 2.3 times more active group work dynamics than EL groups, and ALs displayed 32% more positive behaviors supporting group work activation compared to ELs. These results showed that although leaders can also emerge spontaneously, group work dynamics are more likely to be activated by assigning the leader before the group work task. There were no statistical differences between the two groups in motivational intensity and linguistic performance. Of these, however, an interesting difference emerged when we compared the changes in motivation over time for the two groups. Assigning a leader in advance increased the leader's

motivation from the start and thereby led the entire group to maintain a higher level of motivation throughout the task.

What can be argued in response to the second research question based on the above findings is that the initial condition of learners prior to the task is a key factor in their subsequent task engagement. Ainley (2012) has argued that learners' initial reactions to their tasks impact their engagement levels. Pre-assigning a leader may prove a particularly effective strategy when students have to work on an activity in a limited amount of time, such as classroom group-task activities. Furthermore, considering CDST, we found that pre-assigning leaders is likely to trigger a positive attractor state as a pattern in group motivation and group dynamics in the self-organizing process of a group activity.

The results of this study have several pedagogical implications for language teachers who implement tasks in groups with group leaders. Here, the ALs were highly motivated from the outset due to them being told in advance to play a leadership role, and thereafter remained motivated during the task. This was also evident in their behaviors, with many showing a strong recognition of leadership and members' engagement in the task from an early stage. Moreover, AL group members also displayed early engagement and sustained motivation, contributing actively to the task from the beginning. As the task progressed, they supported and solicited opinions from other members. Based on the foregoing, we make the following three suggestions. First, to motivate learners "as quickly as possible" and to activate group dynamics in relatively short group tasks (i.e., 20 min or less in duration), leaders should be assigned in advance. Second, those leaders should be instructed about the actions and attitudes that are desired in performing the leadership role. Third, in guiding leaders, special emphasis should be placed on leadership direction (e.g., "What next?"), positive remarks (e.g., "That is great!" or "I like your idea!"), and asking for others' ideas (e.g., "What do you think?" or "How about you?") to promote the engagement of other members and to activate both group cooperation and group dynamics.

However, it should be noted that this study has some limitations, thus suggesting avenues of future research. First, this study focused solely on groups with assigned leaders. Although some groups failed to recognize their assigned leader or had no leader emerge, we did not analyze motivational or GWD characteristics in these groups. It is crucial to examine why motivation and GWD were not activated and identify systemic factors by analyzing groups without a leader that failed to increase motivation or GWD. By understanding various causes of demotivation, such as negative influences from leaders or members, new educational insights can be provided. Second, as this study examined a single 20-min task, new insights may be gained from examining longer-duration tasks or tasks done with the same group over several weeks. Although there are benefits in examining a short one-shot task, depending on the educational objective, the process of achieving results through trial-and-error within a group may be worthwhile. Further research will aid the identification of key characteristics in effective leadership, thereby elucidating how to train and develop learners to fulfil effective leadership roles in L2 group work.

Acknowledgments

We would like to express our sincere gratitude to the editors and anonymous reviewers for their insightful, constructive comments. We would also like to thank the students for their cooperation.

Authors' Contributions

Design of the work: MM, TH, MY, RK. Data collection: MM, MY. Data analysis and interpretation: MM, TH, MY, RK. Drafting the article: MM. Revision: TH, MY, RK. Final approval: MM, TH, MY, RK.

Ethics Approval & Consent to Participate

All participants provided written informed consent prior to enrollment and data collection in the study.

Funding

Preparation of this article was facilitated by a research grant (Grant-in-Aid for Scientific Research [B] 20H01290) to the authors from the Japan Society for the Promotion of Science.

REFERENCES

Ainley, M. (2012). Students' interest and engagement in classroom activities. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 283–302). Springer.

Byrne, D., & Callaghan, G. (2014). *Complexity theory and the social sciences: The state of the art*. Routledge.

Council of Europe. (2001). *Common European framework of reference for languages: Learning, teaching, assessment*. Cambridge University Press.

DeKeyser, R. M. (2001). Automaticity and automatization. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 125–151). Cambridge University Press.

DeKeyser, R. M. (2007). Introduction: Situating the concept of practice. In R. M. DeKeyser (Ed.), *Practice in a second language: Perspectives from applied linguistics and cognitive psychology* (pp. 1–18). Cambridge University Press.

Dörnyei, Z. (1997). Psychological processes in cooperative language learning: Group dynamics and motivation. *The Modern Language Journal*, *81*(4), 482–493. https://doi.org/10.2307/328891

Dörnyei, Z. (2020). *Innovations and challenges in language learning motivation.* Routledge.

Dörnyei, Z., & Muir C. (2019). Creating a motivating classroom environment. In X. Gao (Ed.), *Second handbook of English language teaching* (pp. 719–736). Springer.

Dörnyei, Z., & Murphey, T. (2003). *Group dynamics in the language classroom*. Cambridge University Press.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*(2), 350–383. https://doi.org/10.2307/2666999

Fernández Dobao, A. (2012). Collaborative writing tasks in the L2 classroom: Comparing group, pair, and individual work. *Journal of Second Language Writing, 21*(1), 40–58. https://doi.org/10.1016/j.jslw.2011.12.002

Forsyth, D. R. (2018). *Group dynamic*s (7th ed.). Wadsworth Publishing.

Hiromori, T., Yoshimura, M., Kirimura, R., & Mitsugi, M. (2021). Roles of leadership and L2 learner motivation in group work activities. *JACET Journal*, *65*, 47–67. https://doi.org/10.32234/jacetjournal.65.0_47

Hiver, P., & Al-Hoorie, A. H. (2020). *Research methods for complexity theory in applied linguistics*. Multilingual Matters.

Hiver, P., Al-Hoorie, A. H., & Reid, E. (2021). Complex dynamic systems theory in language learning: A scoping review of 25 years of research. *Studies in Second Language Acquisition*, *44*(4), 913–941. https://doi.org/10.1017/S0272263121000553

Hogan, R., & Kaiser, R. B. (2005). What we know about leadership. *Review of General Psychology*, *9*(2), 169–180. https://doi.org/10.1037/1089-2680.9.2.169

Jacobs, H., Zinkgraf, S., Wormuth, D., Hartfiel, V., & Hughey, J. (1981). *Testing ESL composition: A practical approach*. Newbury House.

Larsen-Freeman, D., & Cameron, L. (2008). *Complex systems and applied linguistics*. Oxford University Press.

Leeming, P. (2016). Student views on leadership within small groups in the task-based language classroom. *Ikoma Journal of Economics*, *14*(2), 41–59. https://kindai.repo.nii.ac.jp/record/18259/files/AA1196034X-20161130-0041.pdf

Leeming, P. (2019). Emergent leadership and group interaction in the task-based language classroom. *TESOL Quarterly*, *53*(2), 768–793. https://doi.org/10.1002/tesq.506

Leeming, P., & Cunningham, S. (2012). Group dynamics, leadership and influence. In A. Stewart, & N.

Sonda (Eds.), *JALT2011 Conference Proceedings* (pp. 349–360). JALT.

Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie, & T. K. Bhatia (Eds.), *Handbook of second language acquisition* (pp. 413–468). Academic Press.

Mori, H., & Struc, A. (2019). *4 koma manga de kouryaku! Eigo supikingu.* [Enhance English speaking with four-panel cartoons]. DHC Inc.

Northouse, P. G. (2009). *Leadership: Theory and practice*. Sage.

Osberg, D., & Biesta, G. (2010). The end/s of school: Complexity and the conundrum of the inclusive educational curriculum. *International Journal of Inclusive Education, 14*(6), 593–607. https://doi.org/10.1080/13603110802530684

Plonsky, L., & Oswald, F. L. (2014). How big is "big"? Interpreting effect sizes in L2 research. *Language Learning*, *64*(4), 878–912. https://doi.org/10.1111/lang.12079

Poupore, G. (2016). Measuring group work dynamics and its relation to L2 learners' task motivation and language production. *Language Teaching Research*, *20*(6), 719–740. https://doi.org/10.1177/1362168815606162

Poupore, G. (2018). A complex systems investigation of group work dynamics in L2 interactive tasks. *The Modern Language Journal*, *102*(2), 350–370. https://doi.org/10.1111/modl.12467

Shehadeh, A. (2011). Effects and student perceptions of collaborative writing in L2. *Journal of Second Language Writing*, *20*(4), 286–305. https://doi.org/10.1016/j.jslw.2011.05.010

Storch, N. (2002). Patterns of interaction in ESL pair work. *Language Learning*, *52*(1), 119–158. https://doi.org/10.1111/1467-9922.00179

Storch, N. (2013). *Collaborative writing in L2 classrooms*. Multilingual Matters.

Swain, M. (2000). The output hypothesis and beyond: Mediating acquisition through collaborative dialogue. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 97–114). Oxford University Press.

Swain, M. (2005). The output hypothesis: Theory and research. In E. Hinkel (Ed.), *The handbook of research in second language teaching and learning* (pp. 471–483). Lawrence Erlbaum.

Swain, M. (2006). Languaging, agency and collaboration in advanced second language proficiency. In H. Byrnes (Ed.), *Advanced language learning: The contribution of Halliday and Vygotsky* (pp. 95–108). Continuum.

Ushioda, E. (2003). Motivation as a socially mediated process. In D. Little, J. Ridley, & E. Ushioda (Eds.), *Learner autonomy in the foreign language classroom: Teacher, learner, curriculum and assessment* (pp. 90–102). Authentik.

Verspoor, M. (2015). Initial conditions. In Z. Dörnyei, P. D. MacIntyre, & A. Henry (Eds.), *Motivational dynamics in language learning* (pp. 38–46). Multilingual Matters.

Waninge, F., Dörnyei, Z., & de Bot, K. (2014). Motivational dynamics in language learning: Change, stability and context. *The Modern Language Journal, 98*(3), 704–723. https://doi.org/10.1111/modl.12118

Wind, A. M., & Harding, L. W. (2020). Attractor states in the development of linguistic complexity in second language writing and the role of self-regulation: A longitudinal case study. In W. Lowie, M. Michel, A. Rousse-Malpat, M. Keijzer, & R. Steinkrauss (Eds.), *Usage-based dynamics in second language development* (pp. 130–154). Multilingual Matters.

Yashima, T., Ikeda, M., & Nakahira, S. (2016). Talk and silence in an EFL classroom: Interplay of learners and context. In J. King (Ed.), *The dynamic interplay between context and the language learner* (pp. 104–126). Palgrave Macmillan.

APPENDIX A. Instructions and Guidelines Given to AL Group Leaders

If you received this paper, you are the group leader.
In this class, we will conduct a group writing activity. We would like you to be the group leader and motivate the members of your group in the writing activity. Please play an active role in leading the group discussion and motivating group members. Consider using the following strategies to increase group motivation:

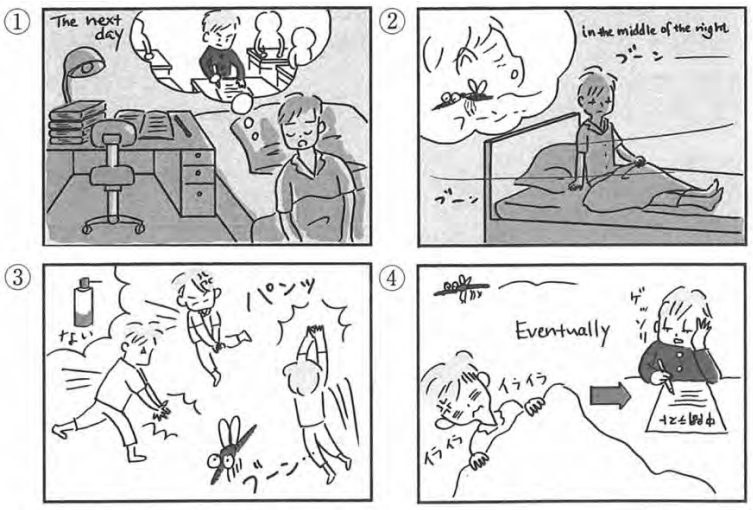
- Speak first when starting a task (e.g., “Let’s get started” or “Let’s start!”).
- Make a positive statement.
- Actively support members when they seem to be having trouble.
- Proactively come up with ideas that will help the task progress.
- Proactively ask group members for ideas that will advance the task.
- Ask group members to explain things more clearly.
- Ask group members for help when you are in trouble.
- Tell jokes to lighten the mood.

If there are other actions you can think of that are not listed above, please feel free to improvise. If things do not go well, we will not hold you responsible. We simply ask that you do your best.
*Please do not tell anyone that you are the leader.

APPENDIX B. Task

Please discuss **in English** with your group and write a description **in English** of what is happening in the following four-panel comic. (**Be sure to show your faces on the screen** and have a discussion.)

Please begin the discussion (for 20 min) as follows:
A: Hi, I'm ○○.
B: Hi, I'm □□.
C: Hi, I'm △△.
A+B+C: OK, let's get started!



Discussion time: minutes seconds.

Note. The four-panel cartoon used in the group writing task was taken from the book, *Enhance English speaking with four-panel cartoons* (Mori & Struc, 2019, p.275).

APPENDIX C. Leadership Impression Results

AL group	Student No.	Yes/No	Votes
1	1	-	2
	2	Yes	
	3	Yes	
2	4	-	2
	5	Yes	
	6	Yes	
3	7	-	2
	8	Yes	
	9	Yes	
4	10	-	2
	11	Yes	
	12	Yes	
5	13	-	1
	14	Yes	1
	15	Yes	
6	16	-	2
	17	Yes	
	18	Yes	
7	19	-	1
	20	Yes	
	21	Yes	1
8	22	-	2
	23	Yes	
	24	Yes	
9	25	-	
	26	No	1
	27	Yes	
10	28	-	2
	29	Yes	
	30	Yes	
11	31	-	
	32	No	1
	33	Yes	
12	34	-	2
	35	Yes	
	36	Yes	
13	37	-	
	38	No	1
	39	Yes	
14	40	-	1
	41	Yes	
	42	No	

EL group	Student No.	Yes/No	Votes
1	1	Yes	
	2	Yes	3
	3	Yes	
2	4	Yes	
	5	Yes	2
	6	No	
3	7	No	2
	8	Yes	
	9	Yes	
4	10	Yes	1
	11	Yes	
	12	No	1
5	13	Yes	
	14	No	2
	15	Yes	
6	16	Yes	
	17	Yes	1
	18	Yes	2
7	19	No	1
	20	Yes	1
	21	Yes	
8	22	Yes	3
	23	Yes	
	24	Yes	
9	25	No	2
	26	Yes	
	27	Yes	
10	28	Yes	
	29	No	1
	30	No	
11	31	No	
	32	No	
	33	No	
12	34	Yes	
	35	Yes	
	36	Yes	3

Note. In the shaded parts of the table, the AL/EL group column indicates the group selected for the investigation, the Student No. presents the identified leader, Yes/No indicates if there was a leader, and Votes shows how many group members believed they were leaders.

APPENDIX D. Interview Questions

[Group Work]
1. How did you like the group work? (In response to the answer) Why?
2. Was the group work easy or difficult? Please, explain why you felt that way.
3. Were you calm and collected during the group work or did you feel uneasy about something? Please, explain why you felt that way.

[Motivation]
1. Did you feel a strong sense of increased motivation for the task during the group work? (In response to the answer) In what specific situations did you feel this way?
2. Were there any moments or situations during the group work activity where you felt your own (or the group's) motivation for the task suddenly increase or decrease?

[Leader's Influence]
1. [Questions for Non-leaders] During the group work, did any of the leader's comments or behaviors stand out to you? (In response to the answer) Can you recall the specific instances?
2. [Questions for Non-leaders] Were there any moments when you (or the group) felt that your motivation for the task suddenly increased or decreased due to the comments or behaviors of the leader that you noted in response to the last question? (In response to the answer) Why do you think this was the case?
3. [Questions for Leaders] Was there anything in particular that you (the leader) were consciously working on during the group work? (In response to the answer) Why?
4. [Questions for Leaders] During the group work, were there any moments when you (or the group) felt that your motivation for the task suddenly increased or decreased due to the comments or behaviors of the group members? (In response to the answer) Why do you think this was the case?