

RESEARCH ARTICLES

Exploratory-Talk Instruction on EFL Group Discussion

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This article reports on a study that investigated the effects of instruction emphasizing exploratory talk (Mercer, 2004) on student performance during group discussion activities in an EFL context. In exploratory talk, group members engage fully with each other's ideas and offer joint statements for mutual educational goals. Data were collected from 18 Japanese university students who formed 6 groups (3 control and 3 experimental) of 3 students. The methodology employed in this study to examine the data was sociocultural discourse analysis, a means that values the dynamic aspects of classroom talk. Quantitative and qualitative data analysis revealed that while the control groups did not show significant change in the use of expressions related to exploratory talk, the use of the expressions increased significantly in the experimental groups.

本論ではexploratory talk (探索的会話)(Mercer, 2004)を取り入れたが教授法が、EFL環境下で学ぶ英語学習者のパフォーマンスにどのような影響を与えるかを検証した。Exploratory talkとは、会話の参加者全員が共通の教育目標を達成するためお互いの考えに深く関わりを持ち、協同しながら発言や提案を精査する活動である。実験参加者(18名)を6つのグループ(それぞれ3名ずつ)に分け、3つを実験群、3つを統制群として分析を行った。本研究では、ダイナミックな教室インタアクションを適切に理解、分析するために社会文化的談話分析方法が採用さ

れた。結果、実験群ではexploratory talk特有の表現の使用に有意な変化が見られたが、統制群では見られなかった。

The empirical spotlight has long been on the ways to improve the quality of students' talk in the classroom. Both in the field of general education and language education, a substantial body of studies have examined teacher–student and student–student interactions, using an array of methods in a wide range of contexts (e.g., Cazden, 2001; Hiratsuka, 2021; Hiratsuka & Malcolm, 2011; Hsiao et al., 2021; Li & Zhu, 2017; Storch, 2002). Among this previous work, Mercer's (2004) development of sociocultural discourse analysis seems especially illuminating. In an attempt to probe the types of talk that can maximize the learning of children, Mercer (2004) analyzed a vast amount of classroom discourse data and determined three archetypical forms of children's talk in classroom group activities. The first type is *disputational talk*, in which children tend to disagree with others in the group and make decisions on their own rather than collaboratively. The second is *cumulative talk*, in which children build on what the other group members have said via the use of repetitions, confirmations, and detailed accounts—but oftentimes without critical analysis. The last type is *exploratory talk*, in which children are involved with one another's ideas, critically and constructively, by seeking reasoning and suggestions from all the group members for joint

decision-making. Mercer (2004) makes a compelling case for the use of exploratory talk in students' talk because it allows them to engage successfully in tasks that require concerted effort and collaborative construction of knowledge in the classroom. This article suggests that Mercer's analytical framework and findings offer promising insights beyond his original contexts, and it demonstrates that the sociocultural discourse analysis methodology he developed with this framework can be fruitfully extended to examine an English as a foreign language (EFL) context such as a Japanese university classroom. We further argue that exploratory talk was similarly generative of knowledge construction in this context and that this form of discourse can be fostered by EFL teachers.

Sociocultural discourse analysis

The emergence of a sociocultural perspective which treats human mental action as related processes mediated by tools, means, or socioculturally constructed artifacts (most notably in the forms of speaking and writing) has revolutionized the ways to view the cognitive development of teachers and learners, both in general and language education. The transmission mode of teaching and learning has been gradually supplanted by diverse forms of dialogic and collaborative (transformative) practices that upheave the boundaries of teachers' and learners' potentials (Johnson & Golombek, 2016; Lantolf & Thorne, 2006). The perspective derives from concepts created by the Russian psychologist and educator Lev Vygotsky. He challenged the prevalent research at his time that attempted to provide mere descriptions of the static products of human learning. What he attended to instead was the developmental learning process and a dynamic explanation for higher psychological functions (see Hiratsuka, 2019; Hiratsuka & Barkhuizen, 2015; Vygotsky, 1978). Several sociocultural researchers (e.g., O'Connor & Michaels, 1996) have recognized the considerable

explanatory power of the Vygotskian perspective and have investigated how two or more people employ language as a tool for teaching-and-learning ventures and combine their respective intellectual resources to complete a common task (Mercer, 2004). The consideration given to how the shared knowledge is both caused and constructed in the act of communication thus became the centrepiece for the development of sociocultural discourse analysis (Johnson & Mercer, 2019; Mercer, 2004).

For Mercer (2004), the term *sociocultural discourse analysis* does not just refer to one particular method in a technical sense but to the methodology as a whole in a theoretical sense, involving several methods—both qualitative and quantitative—as in the case of the present study. He argued that while sociocultural discourse analysis shares similarities with other approaches like discourse analysis and conversation analysis, it possesses distinct characteristics. Sociocultural discourse analysis is characterized by its emphasis on language functions in facilitating collective intellectual activities. Moreover, it incorporates cognitive processes and considers the social and cultural context of communication during analysis. Most germane to the present study, his sociocultural discourse analysis is not only concerned with the process of cognitive engagement (e.g., how students interact) but also with learning outcomes (e.g., what English words they use) (Johnson & Golombek, 2016; Johnson & Mercer, 2019; Mercer, 2004). Mercer's sociocultural discourse analysis thus provides a methodology for a fresh understanding of both the process and the outcome of collective thinking through English in an EFL setting. Moreover, this under-utilized methodology in the field of English language teaching enables us to examine the effects of instructional designs on students' performance during group discussion

activities and present new and valuable findings. The present study was hence guided by the following research question: To what extent does exploratory-talk instruction affect the quality of Japanese university students' interaction in English during group activities?

Methodology

Participants

In recruiting participants, the first author invited his first-year Japanese university students from his three English language courses that were designed for Education, Engineering, and Mathematics majors. At the end of his final lessons in the courses, he explained in Japanese the purpose of the research as well as the extent of their participation and emphasized that their participation was strictly on a voluntary basis and would not affect their grade in any way. Among those who showed interest and submitted consent forms, he randomly chose 6 students from each course—hence 18 students in total. Each cohort was then separated into experimental and control groups evenly. In other words, there were three experimental groups, each consisting of three Education, Engineering, and Mathematics majors, as well as three control groups, each consisting of the three respective majors. The range of their TOEFL scores was around 470–520.

Procedure

On three different days, the first author played the role of instructor for each control group while his three teaching assistants were in charge of the Education, Engineering, and Mathematics-major experimental groups, respectively. In a classroom at the university, thus, the first author asked three students in each control group to engage in a group discussion in English following a prompt: "If you were stranded on a deserted island and could bring only three items as a group, what would they be?" The students then had a

discussion about it freely for eight minutes. After the first group discussion, there was an intervention phase in which he asked the students to talk more in English about the same topic and (a) agree on the three items they would like to bring to a deserted island as a group or (b) if they had already agreed during the first discussion, decide three alternative items in place of those they agreed. The intervention continued for five minutes. After the intervention, he asked the students to engage in another group discussion following a new prompt: "If you, as a group, could travel to only three foreign countries for the remainder of your lifetime, where would they be?" The students participated in the second group discussion for eight minutes.

Simultaneously, in a different classroom at the university each experimental group took part in the research with one of the teaching assistants. Each assistant first asked the three students in their experimental group to engage in the first group discussion in English for eight minutes with the same first prompt. During the intervention phase, however, the assistant gave a mini-lecture in English whereby the idea of exploratory talk was introduced and explained, and the students were encouraged to become cognizant of how they can collaboratively work and effectively communicate as a group. Specifically, the assistant presented the following *ground rules*:

1. Members of groups should seek agreement from everyone before making decisions (e.g., "Do you agree?" and "Does it sound reasonable?").
2. Group members should ask each other for their ideas and opinions (e.g., "What do you think?" and "How about you?").
3. Group members should give reasons for their views and be asked for them if appropriate (e.g., "Why do you think so?" and "What are the reasons?").

(Adapted from Mercer, 2004, p.152)

The intervention, consisting of the mini-lecture, lasted for five minutes and, afterward, the experimental-group students were also asked to engage in the second group discussion for eight minutes with the same second prompt.

Analysis

All the discussions and instructions were recorded and transcribed in full. By referring to previous studies (e.g., Johnson & Mercer, 2019; Mercer 2004; Mercer et al, 1999) and immersing ourselves in the data, we determined key words and phrases which seemed to be closely associated with exploratory talk. They were *because; so; I agree; Me, too; I think; What do you think?; and How about you?* Subsequently, we quantitatively analyzed the discussion data by counting the relative incidence of the key words and phrases. We made sure that the key words and phrases were indeed used as part of exploratory talk by carefully examining the incidence of all the words and phrases in the context in which they appeared (Johnson & Mercer, 2019; Mercer et al., 1999). Concurrently, for qualitative analysis we searched for a series of sequences that served as evidence of exploratory talk in the transcript data.

Findings

Quantitative Data

The quantitative results of the analysis are shown in Table 1, which illustrates the total number of incidences of key features (*because; so; I agree; Me, too; I think; What do you think?; and How about you?*) in both the control and experimental groups. What Table 1 highlights is the various extents to which the increase of incidences of key features occurred in each cohort. Interesting to note is that although the total number of incidences of key features in the first and second discussions in the control group remained approximately the same (i.e., 36 and 39, $\chi^2(1) = 0.12$, $p = .73$, Cramer's V [95%CI] = 0.04 [-0.19, 0.26]), the total

number of incidences in the experimental groups almost doubled from the first discussion to the second (i.e., from 33 to 62, $\chi^2(1) = 8.85$, $p = .003$, Cramer's V [95%CI] = 0.31 [0.11, 0.48]). In other words, only the experimental groups exhibited statistically significant differences in the number of key features between the two discussions.

Table 1

Total incidence of key features in the discussion

Key Feature	Control		Experimental	
	first	second	first	second
Because	1	6	5	9
So	10	11	9	25
I agree	1	1	1	1
Me, too	2	2	0	3
I think	18	10	14	15
What do you think?	4	8	2	5
How about you?	0	1	2	4
Total	36	39	33	62
p	.73 (not significant)		.003 (significant)	

Qualitative Data

In order to exemplify, qualitatively, the impact of the intervention on the students' performance, we concentrated our discourse analysis on the discussions of Education-major students. The students recorded the largest quantitative increase in the incidences of key features before and after the intervention (i.e., from 8 to 24) (see Table 1), and therefore their discussions were presumably filled with salient characteristics of exploratory talk. Below, the first and second discussion transcripts of the three Education majors, Students A, B, and C, are presented.

Transcript 1. *Education-major students' first discussion (00:00 – 4:18)*

B: The match to make fire? (5)
C: But they are not enough.
B: Ahh.
A: I think drinking is very important to me. // Water?
B: Water?
C: First I drink a water. I want to drink more water. //
B: But there is no more water we can drink. (8) *Nanda (How can I say?)*. Sea water? // We/ catch? / If there are sea water. (6)
A: We can convert to drink water.
B: Yes. Yes.
C: I want to / catch fish. (13)
B: If we (6) Cut? It // the cutted stone can / cut the fish. *Nanka (you know)* // E? Fish? Food? (20) In deserted island, people can't live. Human /// can't live.
A: The sunlight is very hard, I think, so / we can shut out the sunlight. (9) The strong sunlight. (11)
B: Bring yacht. // And we / take it and // go to the sea. (5) So catch fish and water. /// Ships. (6)
C: I want to bring items to make a smoke.

Transcript 2. *Education-major students' second discussion (00:00 – 4:11)*

B: I want to go to country /// which is far. Because I want to go many places.
C: Yeah // if you want. (8)
B: How about you? /
C: I think if the country we want to is /// far, /// it takes too much money. (6) It takes many times to go to the place, to go to the place. (5)
B: I see.
A: Oh yeah.
C: I have to (11) *Nandarou (How can I say?)*. I have to. (10)
B: Oh the country (6) which has the low price of, is lower Japan, we can go there. // We can, we can /// we can work for Japanese company in there, so we can get (5) a lot of money to have // low life. Low life? (7) Highlife of country! (8)
A: Low price. Me, too. Yes. Yes.
C: It doesn't cost so much money, /// so it's good. (5)
B: In the country, we can (6). We can be rich, so /// we can go any places and I think /// it is fun.
C: Mmm. I understand. (6)
A: I think so (5) Oh! What is your second language?
C: Chinese.

B: Chinese.

A: Oh you are both Chinese? I, I, I studied Spanish, so we can go to China and Spain, Spain /// to use second language. I think /// it is a good idea. (4) We can touch second language // with going there.

It is immediately apparent that the first discussion did not include many exploratory-talk features, but rather the students often disagreed with one another, provided no follow-ups for the comments made by other group members, and were involved in seemingly unproductive exchanges where individual students made separate remarks that did not lead them to the goal of the activity at hand—deciding what three items to bring to the deserted island as a group. For instance, when Student B began the discussion by mentioning matches as an option to bring to the island, Student C dismissed the suggestion without offering a particular reason (“But they are not enough”). Student A then ignored the exchange between Students B and C and moved on by prioritizing his independent idea which was to bring water. We can also see in the transcript that while Student A thought it a good idea to bring something to protect them from strong sun exposure, Student B expressed the desire to bring a yacht and Student C put forth a wish to bring something that can make fire. As the students appear to have provided their ideas at random without paying any attention to what was being said by other group members, the first discussion can be characterized by repeated attempts of sporadic decision-making and a lack of the mutual acceptance of ideas. In other words, they seem to engage mostly in disputational talk in which group members make decisions on their own and also, to some extent, in cumulative talk where group members lack critical evaluation of presented ideas (Mercer, 2004).

In contrast, the transcript of the second discussion includes several features of exploratory talk. The students often

attempted to elicit ideas from other group members, responded to what others said first before they offered their suggestions, and provided opinions after taking into consideration other group members' experiences. For example, although neither the key phrase *How about you?* nor *What do you think?* was used during the first group discussion, Student A used one (*How about you?*) right off the bat in the second discussion, showcasing that he welcomes other members' ideas. We can also see that even though Student C rarely followed up about other members' comments during the first discussion, the student quickly acknowledged another student's comment ("Yeah if you want"), expressed agreement ("I understand"), and critically but constructively commented on another's idea for shared consideration ("I think if the country we want to is far, it takes too much money"). The transcript also demonstrates that Student A put forward an idea, after asking everyone a question ("What is your second language?"), that they should go to countries where all the group members can use their second foreign languages. This could be a testament that the students came to value their collective experiences and avoided imposing their own ideas on others. Compared with the first discussion, therefore, the students were engaged more with exploratory talk in which each group member exhibited more active participation, articulated careful reasoning to others, and consolidated both their knowledge and use of collaborative expressions (Mercer, 2004).

Discussion

Partially corroborating the findings of previous studies conducted with children and adults (e.g., Johnson & Mercer, 2019; Mercer et al., 1999), the most crucial finding in this study, obtained from a combination of quantitative and qualitative data, is that the explicit instruction on exploratory talk which included *ground rules* helped the

participants to increase the amount of exploratory-talk features and improve the quality of their cooperation during group discussions. With the participants of this study being Japanese university students who were studying English as a foreign language, furthermore, this study adds unique evidence that exploratory talk can be cultivated not only among children in the case of their first language and adults in a professional setting but also among learners of English at a Japanese university. This also demonstrates that a sociocultural perspective, which pays assiduous attention to both the process and product of human learning and to its contextualized social nature, serves as a crucial theoretical basis for explicating, at least partly, complicated educational practices of university students in an EFL context.

While the observed changes in the experimental-group participants' use of exploratory talk were significant, one issue to consider is the miscellaneous factors that might have come into play in the implementation stage of this research procedure. We are not exactly sure in what way and to what degree the topics of the discussions, the number of participants in each group, the relationships among the group members, the personalities of individual participants, the lengths of the discussions and instructions, the contents of the instructions and the characteristics of the instructors, as well as other factors of which we are not aware, might have affected the participants' performance. It could prove useful to conduct further studies that involve different participants, procedures, and other conditions. Our hope is that this type of research and the practice of exploratory talk will prevail, especially in EFL contexts, as the examples have been surprisingly scant thus far (however, see Coultas & Booth, 2019).

Another issue to consider is that, in this study, the control-group participants engaged in an output activity during the intervention phase in which they spoke

English based on the topic from the first discussion, rather than *no* intervention as is often the case with experimental design research. Given the common belief that output opportunity aids learners in developing their language proficiencies, it might be illuminating to conduct a comparative study which delves into the effects of diverse interventions (e.g., allowing output opportunity vs. providing no opportunity) and assesses the participants' improvement (or lack thereof) of their English proficiencies from the points of, for example, fluency, complexity, and accuracy. The data analysis procedure in future studies could involve counting the number of uttered words, individually and/or collectively, as well as how conversation turns are distributed and how long each member holds the floor in the discussions so that the findings of this type of study might provide us with more precise information about how much each member is engaged in and contributes to the jointly-constructed intellectual activity. The findings could then be used as a baseline from which to evaluate the level of collaboration among the participants for advancing our understanding about the nature of each discussion.

Conclusion

In this study, instruction on exploratory talk had a significant effect on the use of

exploratory-talk expressions during group discussions among Japanese university learners of English. Quantitatively, the experimental group displayed a statistically significant increase in the use of exploratory talk over the course of two discussions, while the control group showed no conspicuous difference. Qualitatively, we presented an illustrative example whereby three Education-major students became more actively and cooperatively engaged in the second discussion, in comparison to the first, and gave reasons for their opinions, sought others' input, and expressed their agreements with others. We thus conclude that explicit instruction on exploratory talk can be an effective way to promote EFL university students' performance during group discussions. We encourage English language teachers to introduce the concept and the benefits of exploratory talk during their lessons, particularly before their students' group activities. In addition, our wish is that teachers will embark upon a personal exploration into how to best provide instruction on exploratory talk in their own contexts, for instance, by videotaping their teaching practices in order to analyze their discourse and moves in the classroom as well as by collecting questionnaires from their students to learn their viewpoints on their instruction on exploratory talk (see also Hiratsuka, 2014; Hiratsuka & Malcolm, 2011).

References

- Cazden, C. (2001). *Classroom discourse: The language of teaching and learning*. Greenwood Press.
- Coultas, V., & Booth, P. (2019). Exploratory talk and task-based learning: A case study of a student's learning journey on an MA (Education) English language teaching course. *Changing English*, 26(1), 30-47. <https://doi.org/10.1080/1358684X.2018.1545109>
- Hiratsuka, T. (2014). *Understanding the perceptions and practices of team teachers and students in Japanese high schools through Exploratory Practice (EP)* [Unpublished PhD thesis]. University of Auckland.
- Hiratsuka, T. (2019). Possibilities of a sociocultural perspective in second language teacher education (SLTE). *The Annual Report of Tohoku University Center for Culture and Language Education*, 11, 5-14.

- Hiratsuka, T. (2021). A study into the pyramid discussion approach with pre-service English teachers in Japan. *Indonesian TESOL Journal*, 3(2), 88-102.
<https://doi.org/10.24256/itj.v3i2.1967>
- Hiratsuka, T., & Barkuizen, G. (2015). Effects of Exploratory Practice (EP) on team teachers' perceptions in Japanese high schools. *JALT Journal*, 37(1), 5-27.
- Hiratsuka, T., & Malcolm, W. (2011). Exploring language teachers' non-judgemental stances. In A. Stewart (Ed.), *JALT 2010 Conference Proceedings* (pp. 191-200). JALT.
- Hsiao, J. C., Chen, S. K., Chen, W., & Lin, S. S. J. (2021). Developing a plugged-in class observation protocol in high-school blended STEM classes: Student engagement, teacher behaviors and student-teacher interaction patterns. *Computers & Education*, 178(C), 104403. <https://doi.org/10.1016/j.compedu.2021.104403>
- Johnson, K., & Golombek, P. (2016). *Mindful L2 teacher education: A sociocultural perspective on cultivating teachers' professional development*. Routledge.
- Johnson, M., & Mercer, N. (2019). Using sociocultural discourse analysis to analyze professional discourse. *Learning, Culture, and Social Interaction*, 21, 267-277.
<https://doi.org/10.1016/j.lcsi.2019.04.003>
- Lantolf, J., & Thorne, L. (2006). *Sociocultural theory and the genesis of second language development*. Oxford University Press.
- Li, M., & Zhu, W. (2017). Good or bad collaborative wiki writing: Exploring links between group interactions and writing products. *Journal of Second Language Writing*, 35, 38-53.
<https://doi.org/10.1016/j.jslw.2017.01.003>
- Mercer, N. (2004). Sociocultural discourse analysis: Analysing classroom talk as a social mode of thinking. *Journal of Applied Linguistics*, 1(2), 137-168.
<http://dx.doi.org/10.1558/japl.2004.1.2.137>
- Mercer, N., Wegerif, T., & Dawes, L. (1999). Children's talk and the development of reasoning in the classroom. *British Educational Research Journal* 25(1), 95-111.
<http://dx.doi.org/10.1080/0141192990250107>
- O'Connor, C., & Michaels, S. (1996). Shifting participant frameworks: Orchestrating thinking practices in group discussion. In D. Hicks (Ed.), *Discourse, learning and schooling* (pp. 63-103). Cambridge University Press.
- Storch, N. (2002). Patterns of interaction in ESL pair work. *Language Learning*, 52(1), 119-158.
<https://doi.org/10.1111/1467-9922.00179>
- Vygotsky, L. S. (1978). *Mind in society*. Harvard University.

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