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*The Potential Contribution of Interactional Sociolinguistics
to the Integration of Society and Knowledge:
A Case Study of Interdisciplinary Interaction on the Use of Generative AI*

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Abstract

This study examines how sociolinguistics can contribute to “the integration of society and knowledge” through conversations among graduate students from different academic fields. It focuses on how these students negotiate and accommodate their norms and awareness regarding the use of generative AI. Modern society has become increasingly complex due to rapid technological innovation, economic expansion, and globalization. Consequently, individuals are required to collaborate across various communities, both domestically and internationally. In academic contexts, for example, joint research between the humanities and the sciences is essential for addressing such complex issues. Interactional sociolinguistics (IS) provides a useful framework for analyzing these interdisciplinary interactions. IS investigates language use through detailed analysis of conversational cues and social contexts. Drawing on IS methods, this presentation analyzes an interview between two graduate students—one from the humanities and the other from engineering science—about the use of generative AI. The data were recorded via Zoom and transcribed in detail, including relevant nonverbal behaviors. The analysis reveals that both students shared similar perceptions of challenges concerning the reliability and accuracy of generative AI, regardless of whether they used it. Through collaboration and the sharing of experiences, the participants reconstructed their normative awareness in interdisciplinary communication. This study outlines a form of interdisciplinary interaction that sociolinguistics can illuminate in an increasingly integrated society.

Keywords: interactional sociolinguistics, interdisciplinary interaction, generative AI

1. Introduction

Modern society has become increasingly complex, driven by rapid technological innovation, economic expansion, and globalization. Currently, generative AI technologies, such as ChatGPT and Gemini, have gained widespread popularity and are utilized globally. Consequently, individuals are required to collaborate across diverse communities at domestic, international, and hybrid levels. In academic contexts, interdisciplinary research, such as collaboration between the humanities and the sciences, is essential for addressing these multifaceted issues. Researchers engaged in such joint endeavors are expected to cooperate closely with their colleagues. In this context, interdisciplinary communication plays a pivotal role, facilitating the integration of society and knowledge. Interactional Sociolinguistics (IS) provides a robust framework for analyzing such interdisciplinary communication. Therefore, this study examines how IS contributes to "the integration of society and knowledge" by analyzing conversations among graduate students from disparate academic fields. Furthermore, through discourse analysis, this research elucidates the nuances of communication between individuals with different areas of expertise. Specifically, it focuses on how these students negotiate and accommodate their norms and perceptions regarding the use of generative AI.

2. Literature Review: interactional sociolinguistics

Gumperz (2015) defines Interactional Sociolinguistics (IS) as a framework designed "to interpret what participants intend to convey in everyday communicative practice" (p. 309). IS incorporates a broad range of qualitative microanalyses of recorded, naturally occurring interactions, conducted with meticulous attention to the social context in which the exchange occurs (Gordon & Tannen, 2021, p. 181). Specifically, IS investigates language use through the detailed analysis of conversational cues and social contexts, including background knowledge, conventions, and norms (Gordon & Tannen, 2021; Gumperz, 1982; Iwata et al., 2022). Consequently, this framework can be effectively applied to generate insights into interdisciplinary communication by establishing links between these diverse contexts.

3. Data and Methodology

The data for this research were collected through semi-structured interviews designed to illustrate interdisciplinary communication. The central theme of these interviews was the recent and rapid advancement of generative AI. Given that graduate students utilize generative AI in both their academic research and daily lives, examining how students from diverse academic divisions discuss its application allows for an observation of how their respective expertise shapes shared or divergent perspectives and norms regarding the technology.

In September 2024, participants were recruited on the condition that they would be recorded while discussing generative AI and related technologies; subsequently, interviews were conducted via Zoom. Referring to Amano et al. (2020), The participants consisted of six master's students and two doctoral students. Prior to the interviews, they were provided with a document summarizing key information concerning generative AI. Each session involved a recorded conversation among two participants and one researcher. As indicated in Table 1, relevant excerpts were selected for analysis from four sessions, totaling 218 minutes and 13 seconds.

Date (2024)	Group	Name	Academic year	Major	Recorded time	Note
September 19	1	1A	M2	Humanities, Division of Language and Culture	0:57:37	First meeting conversation
		1B	M1	Humanities, Division of Humanities		
September 19	2	2C	D1	Humanities, Division of Language and Culture	0:57:31	Friend conversation
		2D	D1	Medicine, Division of Health Sciences		
September 26	3	3E	M2	Humanities, Division of Humanities	0:50:45	Friend conversation
		3F	M2	Engineering Sciences		
September 26	4	4G	M2	Humanities, Division of Humanities	0:53:20	First meeting conversation
		4H	M2	Engineering Sciences		

Table 1: participant information

T Group 4 was selected for the analysis and presentation of results. The participants in this dataset included 4G, a student from the humanities; 4H, a student from the engineering sciences; and IR, the interviewer. The interviews were conducted in Japanese, and the resulting transcriptions were subsequently translated by the author. Regarding the methodology, this research employs discourse analysis to examine the data.

4. Results

The following excerpts illustrate the participants' usage of generative AI and their associated norms. In Excerpt 1, 4H took his turn to describe the specific generative AI tools he had utilized.

```
001.      4H: Well, maybe I start again?
002.      IR: ((nod)) Thank you very much.
003.      4H: Um, as I mentioned earlier,
004.          >just to give a specific<
005.          name, there is a generative AI called ChatGPT,
006.      IR:  ((nod))
007.      4G:  ((nod))
008.      4H:  and also a (          tool).
009.          (0.5)
0010.     IR:  A cloud tool.
0011.     4H:  Yes. There is that AI, and also—
0012.          this is something Google recently released
0013.          something called NotebookLM.
0014.     IR:  Hmm
0015.          (0.5)
0016.     4G:  ((nod))
0017.     4H:  I use it.
0018.     IR:  I see.
0019.     4H:  I have used it before.
0020.     IR:  okay.
0021.     4H:  And basically,
0022.          (1.0)
0023.     4H:  I use it to help me read academic papers.
0024.          I'm not very good at English, so
0025.     4G:  ((nod))
0026.          (1.5)
0027.     4H:  I have it translate the English into
0028.          something more natural, and help me understand
0029.          what it's saying.
0030.          (1.0)
0031.     4H:  I use it quite often for that.
```

Excerpt 1: 4H's experience

4H had extensive experience utilizing generative AI, including tools such as ChatGPT and NotebookLM (lines 1–17). From line 21, 4H further explained his application of generative AI, stating that he "basically" (line 21) used these tools to facilitate reading academic papers written in English (line 23). He attributed this usage to the fact that he was "not good at English" (line 24). 4H frequently employed generative AI to assist in his understanding and translation of English texts. Conversely, following the conclusion of 4H's turn, 4G initiated her turn in Excerpt 2 and described having no experience with generative AI.

0034. 4G: Yes. Well, to state the conclusion first, I have
0035. absolutely never used anything like that [myself,
0036. IR: [Mm-hm.
0037. 4G: I've never actually used ChatGPT myself,
0038. but I have seen other people
0039. (0.5)
0040. 4G: using it,
0041. IR: ((nod))
0042. 4H: so I kind of understand how it works.
0043. (.)
0044. IR: Mm.
0045. 4G: But I couldn't really imagine in what
0046. situations you would actually use it, so hearing the
0047. discussion just now made me think,
0048. Oh, so that's when you would use it, or,
0049. Oh, so that's how the accuracy varies,
0050. 4G: .hh >like< there are tools that are specialized
0051. for certain things,
0052. I see—that's what I learned
0053. from the discussion just now, .hh and that's about
0054. the level of resolution I have on it.
0055. IR: @@
0056. 4G: And, well, regarding what kinds of uses
0057. I've seen around me:
0058. .hh for example, when we were doing a reading group,
0059. IR: ((nod))
0060. 4G: if someone wondered what a certain term meant,
0061. (.)
0062. 4G: we could look it up on Wikipedia, but
0063. sometimes we ask ChatGPT to summarize it,
0064. like Oh, so that's what it is, .hh
0065. using it <kind of like a small dictionary> .h
0066. or::: (.) alternatively, having it translates
0067. materials to some extent;
0068. IR: Mm.
0069. 4G: .hh (0.4) or conversely, giving ChatGPT
0070. lots of materials.
0071. hh that could serve as a sort of database,
0072. issuing instructions and having it create documents,
0073. then going back and forth and revising them—
0074. I've seen people use it that way too. That example
0075. is more like for <work-related> documents rather
0076. than for research, but I have seen that.
0077. IR: Hm. I see. So rather than using it yourself,
0078. you see people around you using it—
0079. 4G: Yes, that's right. My impression is that people
0080. around me use it sometimes.

Few lines were omitted.

0083. 4G: Uh::m. Right, when you get down to the fine details,
0084. there will unavoidably be issues with accuracy.
0085. So at that point >probably<
0086. IR: ((nods))
0087. 4G: people around me tend to think that checking
0088. the detailed literature
0089. themselves is::: more accurate.

Excerpt 2: 4G's talk

4G mentioned that she had "never used anything" (line 34) like ChatGPT or NotebookLM, tools that 4H utilized in his daily life. Consequently, rather than providing examples of personal usage, she alluded to how "other people" (line 38) utilized ChatGPT. This utterance is interpreted as demonstrating an understanding of usage contexts and tools facilitated by 4H's preceding description of generative AI. Furthermore, in line 45, 4G noted that she had become aware of the diverse types of generative AI through 4H's previous turn. Subsequently, 4G described how individuals in her social circle utilized these tools as a "kind of small dictionary" (lines 62–67) for translation and document creation. Although 4G acknowledged the utility of generative AI as demonstrated by those around her, she expressed concerns regarding its

"accuracy" (line 84). Following 4G's turn, as shown in Excerpt 3, 4H also addressed the issue of accuracy. He explained that he had frequently used "DeepL," a translation service; however, due to the limitations imposed on free users, he began utilizing ChatGPT to translate academic papers. Excerpt 3 begins following this exchange.

```

00122.   IR:   And then, as you kept looking for tools with
00123.         better accuracy,
00124.         (0.6)
00125.   IR:   now[-
00126.   4H:   [Yes, well, somehow, (0.3)
00127.         to be honest,
00128.         (0.5)
00129.   4H:   even with what I'm using now,
00130.         (0.3)
00131.   4H:   I can't
00132.         (0.4)
00133.   4H:   fully trust it [exactly-
00134.   IR:         [@@
00135.   4H:   So, for example, having it translates English,
00136.         (0.7)
00137.   IR:   Mm.
00138.   4H:   and then, (0.6) regarding the theme or the
00139.         content of the research-
00140.         regarding the ideas or logic in the paper- (1.0)
00141.         I think things through again myself.
00142.         (0.7)
00143.   IR:   Mm-hm, mm-hm.
00144.         (1.1)
00145.   4H:   So, well, yes, quite often,
00146.         (1.2)
00147.   4H:   uh-
00148.         (0.9)
00149.   4H:   the accuracy isn't very good, but, well,
00150.         (0.8)
00151.   4H:   it handles things roughly-
00152.         (0.6)
00153.   4H:   roughly enough that it helps me save time,
00154.         so I use it for that.
00155.   4G:   ((nods))
00156.         (1.1)
00157.   IR:   I see.

```

Excerpt 3: 4H's use of AI and its accuracy

While 4G lacked the motivation to download generative AI applications, 4H utilized these tools in his daily life. However, 4H maintained that generative AI cannot be fully trusted (lines 131–133). Illustrating this point with the example of AI-assisted translation from line 135, he concluded that although the accuracy was "not good" (line 149), the technology helped him "save time" (line 153). This utterance suggests that 4H recognizes the potential for inaccuracy in generative AI output; nevertheless, he prioritizes its utility for time management. Following this statement, he further described his utilization of generative AI, noting that he also employed ChatGPT for programming. In summary, both participants expressed concerns regarding the accuracy of generative AI output, irrespective of their level of familiarity with such tools.

5. Discussion

This research observed that both participants remained skeptical regarding the reliability of generative AI. Regardless of their prior experience, they shared the norm that the accuracy and trustworthiness of such technology are problematic. Throughout the interview, this normative awareness was co-constructed and reproduced within their interaction. This norm appears to be a fundamental principle that should be upheld when utilizing generative AI, irrespective of one's academic field. The fact that this seemingly "primary" norm was confirmed during an initial meeting suggests that such confirmation may function as a communicative strategy for navigating disciplinary boundaries.

6. Conclusion

Interactional Sociolinguistics (IS) analyzes communication by drawing on multiple contextual cues, thereby facilitating a deeper understanding of interdisciplinary communication. In this sense, IS serves as a valuable framework for the integration of society and knowledge. This research provides a case study that reveals a fragment of interdisciplinary interaction; however, several limitations must be acknowledged. First, the participants were recruited from a single university. Second, the scope of the dataset is limited. Finally, the present study focuses exclusively on instances of smooth and successful communication. Therefore, more fine-grained analyses of detailed transcripts are required to understand how communication among graduate students unfolds and to analyze instances where interactions do not proceed smoothly. Furthermore, future research should incorporate comparisons with interactions among graduate students within the same academic division to further delineate the distinctive characteristics of interdisciplinary communication.

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