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Articles

Embodied Uses of Electronic Bilingual Dictionaries

Eric Hauser

University of Electro-Communications and University of Hawai'i at Mānoa

Electronic bilingual dictionaries are widely used among university students in East Asia. There is a small body of research, based on questionnaires or experiments or both, on their use and effectiveness, but with one exception, research has not been focussed on the details of actual dictionary use. Drawing on conversation analysis, the current study presents analyses of students' embodied use of electronic dictionaries during second language English discussions. It is shown that (a) the layout of items on the screen is a resource for recognition, (b) there is an orientation to dictionary ownership, (c) the configuration of objects and bodies is consequential for how dictionaries are used, (d) manipulation of a dictionary can be interactionally significant, and (e) there is not a strong normative element to how dictionaries should be consulted. It is argued that dictionaries are used to accomplish a variety of objectives unlikely to be revealed through questionnaire or experimental research.

電子辞書は、東アジアの大学生の間に広く普及している。これまで、アンケートや実験の結果に基づいた電子辞書の効果と使用状況についての報告はいくつかあるが、実際の辞書使用を詳細に分析した研究はほとんど見られない。本論文は、第二言語としての英語ディスカッションに見られる学生の電子辞書の具現化された使い方を、会話分析を使って詳細に示す。分析では、以下の点について提示する：(a) 電子辞書画面上に表示される画像・文字が認識のリソースになること、(b) 辞書の所有権に対する意識が見られること、(c) 辞書使用に関して、物と身体の配置が重要であること、(d) 辞書の操作が相互行為的な意味を持つ可能性があること、(e) 辞書の使用について、それほど強い規範的な志向性がみられないこと。これらの分析に基づいて、アンケートや実験に基づく従来の研究では観察されなかった多様な目的の辞書使用の実態を論じる。

Since the 1990s, the pocket electronic bilingual dictionary (ED)¹ has become popular among East Asian university students,² who even if they do not major in English, are often required to take EFL classes. This may be specific to East Asia, with such dictionaries being less popular outside East Asia (Chen, 2010; Jian, Sandnes, Law, Huang, & Huang, 2009). Perhaps for this reason, East Asia has also been the location for most research into the use of EDs. As pointed out by Kobayashi (2008), this research can be divided into two types—research investigating how students use EDs and research investigating its effectiveness—though reports of research often contain both. Such research typically involves some sort of comparison between EDs and paper dictionaries.

Research investigating how students use EDs has relied heavily on questionnaires (e.g., Bower & McMillan, 2007; Chen, 2010; Jian, et al., 2009; Kobayashi, 2007, 2008; Weschler & Pitts, 2000), though Kobayashi (2007) also drew on data from retrospective reports to investigate how participants used either a paper dictionary or an ED during an L2 reading task, and Kobayashi (2008) drew on data from interviews with a subset of questionnaire respondents. Research investigating the effectiveness of dictionaries has tended to be experimental (e.g., Chen, 2010; Kobayashi, 2007; Loucky, 2002, 2003; Weschler & Pitts, 2000). With regard to such things as retention of vocabulary looked up during a task, experimental research has not found any significant differences between the effectiveness of EDs and paper dictionaries, though there may be a speed advantage for EDs. Weschler and Pitts (2000) and Loucky (2002, 2003) reported that it took students slightly less time to find words in an ED, but none of these reported any tests of statistical significance.

With what appears to be only one exception (Barrow, 2009, see also 2010), ED research has not been based on careful observation and analysis of what students actually do when using such a dictionary. Such observation and analysis have the potential to provide useful information for English teachers, who may be helped to better understand how their students use EDs. As is shown by the substantial body of ethnomethodological and conversation analytic (CA) work on the use of technology in work places (e.g., Goodwin, 1995; Heath & Luff, 2000; Suchman, 1987, 2007; Whalen, 1995), detailed analysis of what people do with technology can reveal unnoticed, taken-for-granted features of how people actually use it. When it comes to how students use EDs, apparently the only study with a detailed analysis of dictionary use is Barrow (2009), in which were described three ways that Japanese university students consult EDs during L2 English discussions: consultations that occur during a turn-at-talk, consultations that

are abandoned, and consultations in order to find a word for later use. Barrow's study focused on the first of these, which he found to be somewhat more common than the other two. Barrow suggested on the basis of its more common occurrence that the way participants organize consultations that occur during a turn-at-talk is a normative organization. This is problematic, though, as he did not provide any evidence that participants orient to this organization as normative. What can be said is that Barrow's analysis demonstrated that practices of self-initiation of repair (e.g., cutting off a word, sound stretches, changes of gaze direction) cluster prior to participants' dictionary consultations. These repair initiation practices, and other practices involved in consulting a dictionary, demonstrate how the participants commonly use their EDs to solve problems with finding L2 vocabulary during a turn-at-talk. They also more or less strongly project what the L2 word is, sometimes by the participant who is consulting a dictionary articulating a Japanese translation equivalent during the consultation. This allows for certain forms of collaboration, such as the other participant proposing an L2 word or also consulting his or her own dictionary. Finally, through the use of video data, Barrow demonstrated that practices of consulting a dictionary are embodied practices.

The current study differs from Barrow (2009, 2010) in that, although it presents CA-type analyses of the sequential organization of interaction that involves the use of EDs, rather than focusing on recurrent features of sequences involving dictionary consultation, it focuses on such things as how the affordances of dictionary design, the location of a dictionary relative to the participants, dictionary ownership, and the placement and orientation of bodies and material objects contingently influence participants' organization of their dictionary use. To do this, I first describe what is happening in a particular instance and then make analytic observations about ED use during the episode on the basis of this description. Each instance analyzed below is treated as a unique occurrence. General points that can be learned from these unique occurrences will be discussed in the conclusion.

Data

The data are drawn from video recordings of L2 English-language discussions among students at two different universities in Tokyo. The students are not majoring in English but are taking either required or elective EFL classes. They are participating in these discussions as part of a class assignment. Some of the discussions are conducted during class, others outside class. The corpus consists of slightly over 4 hours of recorded discussions,

which have been transcribed based on CA transcription conventions (see Jefferson, 2004). The data were collected for the purpose of investigating how participants in L2 discussions interact and the linguistic and nonlinguistic resources they draw on to do so. They were not collected for the specific purpose of investigating dictionary use. All participants gave oral consent for these recordings to be used for research purposes. Participants are referred to in the text by pseudonymous Japanese surnames. Data from this corpus have been used in other publications (e.g., Hauser, 2013). It should be noted that some participants did not use dictionaries, others made limited use of them, and a few participants relied on them heavily. No participants used a paper dictionary during their discussion, which may reflect the ubiquity of EDs among East Asian, or at least Japanese, university students.

The data are presented as a mixture of transcripts and video frames, with the frames available in Online Appendix A, Transcripts With Frames. A list of transcription symbols, based on Jefferson (2004), is in Appendix B. Where Japanese words appear in the transcripts, a morpheme-by-morpheme gloss is provided in the following line. Each frame is numbered, with the number of the frame placed in the transcript beneath the talk that was being produced at that time. There are no frames for Excerpt 1a. The original video data can be viewed through the URL provided with each excerpt.

Embodied ED Use

In Excerpt 1a, the students are talking about a vocabulary item from the reading that is the topic of their discussion.

Excerpt 1a <http://youtu.be/nprgXV1a-IM>

```

01   K: eh .h (kore) (0.4) <cluster bombs>
           this
02           °↓tte nani.°
           QT   what
03   W: ↑cluster bombs uh (0.2) ↓uh-
04   K: °jirai:°
           land mine
05   (0.2)
06   W: ↑no. ↓chigau.
           different

```

Note. QT = quotative

- 17 (0.4) ((W gazes away from dictionary; C turns
9
dictionary toward self))
- 18 W: land mine [ah
- 19 K: [°m eh? nani. ↓land mine. °((leans
10
what
forward))
- 20 forward))
- 21 C: land °mine_ ° ((shows/holds out dictionary to K))
11
- 22 (1.2) ((K takes dictionary))
12
- 23 K: hee:: ↑lando mine_ ((returns dictionary))
13
- IT
- 24 (2.3) ((C places dictionary in original location))
14
- 25 W: uh (1.1) ↑to use:
15
- 26 K: n:
- 27 W: ↓uh ↑land mine and, (0.2) >cluster bombs
28 and,< (0.2) uh- (0.2) huge bomb
- 29 K: m m
- 30 W: = is: (0.2) not (0.5) ↑not (0.3) uh:: (0.9)
31 righ- right thing. ↑things:.

Note. IT = interactional token

During the silence in line 06 (frames 1 and 2), Chiba turns her head toward her dictionary, located on the table slightly behind her, while her torso remains oriented to the group. She operates the dictionary with her right hand. Even though Kobayashi starts to talk in lines 08 and 09, in line 10, Chiba says “land mine,” while her head is still turned toward her dictionary (frame 3). In response to this, Watanabe turns his head toward Chiba (frame 4) and then leans toward her dictionary (frame 5). These changes in posture

occur during the gap in line 11. In line 12, Kobayashi says something that sounds like a cross between *what* and *which*. In line 13, as Chiba says “*jirai* is land mine,” Watanabe leans closer to the dictionary (frame 6) and Chiba then moves her dictionary closer to him (frame 7). Meanwhile, Kobayashi also leans forward. In line 15, Watanabe says “land mine.” As can be seen in frame 8, he is still leaning toward the dictionary, while Kobayashi leans back in her chair, apparently giving up on being able to see Chiba’s dictionary. Chiba then says “land mine” again, while Watanabe gazes away from the dictionary, which Chiba reorients away from Watanabe’s line of sight (frame 9). In line 18, Watanabe repeats “land mine” again, after which Kobayashi asks the meaning of land mine (line 19). She leans forward as she says “land mine” and Chiba moves her dictionary toward Watanabe (frame 10). As Chiba once again says “land mine” in line 21, she passes the dictionary to Kobayashi (frame 11). During the gap in line 22, Chiba withdraws her hand, so that Kobayashi is now holding the dictionary (frame 12). During this change in who is holding the dictionary, Kobayashi remains leaning forward. In line 23, Kobayashi notes the newness of the information with “*hee*” (Mori, 2006), repeats “land mine,” and returns the dictionary to Chiba (frame 13). During the following gap in line 24, Chiba places the dictionary back in its original location (frame 14). She then turns her head back toward the group as Watanabe starts to talk in line 25 (frame 15). He then goes on to use land mine as part of a three-part list (Jefferson, 1990) of “land mine, cluster bomb, and huge bomb.”

There are several observations that can be made about the interaction presented in this excerpt on the basis of this description. First, the Japanese word that Chiba translates using her dictionary is a word that was first introduced by another participant, in Excerpt 1a. However, initially, neither the word *jirai* nor its English translation was topicalized. By announcing the result of her dictionary search, Chiba topicalizes the translation, *jirai*. Second, all three participants orient to Chiba’s dictionary as the source of the translation. Chiba does this by facing her dictionary as she says “land mine” and “*jirai* is land mine” and by moving the dictionary so that the screen can be seen first by Watanabe and then by Kobayashi. This also involves handing her dictionary to Kobayashi. Watanabe and Kobayashi do this by leaning toward the dictionary and, in the case of Kobayashi, briefly taking it from Chiba. Third, Watanabe and Kobayashi treat the dictionary as belonging to Chiba. Watanabe does not try to take the dictionary and, in fact, never brings his hands to his left side while gazing at it. Kobayashi takes hold of the dictionary, but remains leaning forward, holding it with one hand and not

bringing it much closer to her body. Fourth, the location of the dictionary at the start of the excerpt—on a desk to Chiba’s right—and the fact that there is nothing (e.g., a table or desk) between the participants on which to place the dictionary influence Chiba’s actions. She turns her head away from the other participants in order to consult the dictionary, holds it out for Watanabe to see, and passes it to Watanabe, all of which would have been done differently if, for example, the participants had been seated around a table and the dictionary had been placed on this table. Fifth, the size of the dictionary screen and the configuration in which the participants are sitting appear to constrain the number of people who can look at the dictionary at one time. As a result, Kobayashi abandons her first attempt to look at the dictionary. Her second, successful attempt comes after Watanabe has withdrawn his gaze. And finally, both Watanabe and Kobayashi apparently know where to look on the dictionary screen to find the translation. They do not need Chiba to point out where the translation can be found. This can be understood as an affordance of how the Japanese word and its primary translation appear on the screen. That is, they appear at the top of the screen and the other participants, knowing this, know where to look.

Excerpts 2 and 3 both involve the same two participants. More than any other participants, these two rely very heavily on their dictionaries. In Excerpt 2, one participant touches and slightly moves the other’s dictionary.

Excerpt 2 <http://youtu.be/pKhCHVOhs5g>

01 T: I (5.5) ((dictionary use)) I- (8.2)
 1 2 3
 02 I expect (0.4) you. °h h°
 4 5 6
 03 (4.4) ((H looks at T’s dictionary))
 7
 04 H: hh
 8
 05 (2.3)
 9
 06 H: I expect (.) you too.
 10 11

In line 01, Tanabe (T), says “I” and then pauses. At the start of the pause, he is not consulting or moving toward his dictionary. Rather, as can be seen in frames 1 and 2, as he pauses after saying “I,” he crosses his arms and gazes to middle distance. However, in frame 3 he then unfolds his arms and moves his hands and gaze toward his dictionary. Most of the pause following this “I” and the next pause following the second “I” are filled with dictionary use. At the end of the pause, Tanabe removes his hands from the dictionary and from the table. With his gaze still on the dictionary (frame 4), he says “I expect.” He then pauses briefly and shifts his gaze to Hamada (H), as can be seen in frame 5. Tanabe then adds “you” and produces a slight laugh. By the end of the laugh (frame 6), Hamada has shifted his gaze to Tanabe. Hamada has trouble understanding what Tanabe has said and responds by leaning forward and turning Tanabe’s dictionary toward himself (frame 7). He then smiles (frame 8) and turns the dictionary back toward Tanabe while laughing slightly. The laugh, audible as a response to what he has seen on the dictionary screen, indexes that he now understands. Still smiling, Hamada leans back in his chair and gazes to middle distance, with Tanabe gazing at him during the silence in line 05 (frame 9). At the start of line 06, Tanabe shifts his gaze off Hamada and Hamada shifts his gaze towards Tanabe, as can be seen in frame 10. Hamada says “I expect” and pauses briefly. During the pause (frame 11), Tanabe returns his gaze to Hamada. Hamada then says “you too.”

Again, several observations can be made on the basis of this description. First, what Tanabe says to Hamada following his consultation of the dictionary, “I expect you,” is visibly based on what Tanabe has found in the dictionary. This allows Hamada to assume that he can solve his problem understanding what Tanabe has said to him by looking at the on-screen product of Tanabe’s dictionary work. Second, Hamada knows where to look on the dictionary screen for the information he needs to solve his understanding problem. Third, although Tanabe’s actions in line 01 indicate that he is engaging in a word search, or what comes to be self-initiated self-repair accomplished through the use of the dictionary as a tool, Hamada’s actions can be understood as other-initiated other-repair (Schegloff, Jefferson, & Sacks, 1977). The repairable is “I expect you” and Hamada uses the dictionary to both initiate and accomplish the repair. He initiates the repair by leaning forward and turning the dictionary and then accomplishes it by silently reading what is on the screen. This excerpt thus contains a type of repair found to be common by Barrow (2009, 2010), but this is followed by additional, and differently organized, repair work. Fourth, though he reaches out and turns Tanabe’s dictionary toward himself, Hamada treats the dictionary as belong-

ing to Tanabe, as he moves it only slightly and turns it back toward Tanabe after he has solved his understanding problem. Finally, the configuration of the furniture and the orientation of the participants' bodies allow Hamada to gain visual access to the dictionary screen with only minimal adjustment of Tanabe's dictionary. Hamada only needs to lean forward and turn the dictionary slightly. The resulting change in the direction the dictionary is facing is small enough that Tanabe can still see the screen, which he continues to gaze at.

Excerpt 3 involves the same two participants.

Excerpt 3 <http://youtu.be/uPILc5JgLIU>

01	H:	global	warming	(2.0)	°kah°	(1.6)	((starts to			
02		check	dictionary))	ah	causee	(0.5)	zu	(2.3)		
									1	
03		cauzu?	(13.0)	((checks	dictionary,	shows	T))			
			2		3					
04	T:	cause.								
05	H:	cause	(.)	↑cauzu	(4.2)	the	ice	(0.8)	melted.	
			4		5			6	7	

In line 01, Hamada has problems finding a word that he wants, but he does not immediately use his dictionary. During the first pause in line 01, he does not make any move toward his dictionary. During the second pause, he moves his hands and shifts his gaze to his dictionary. However, he abandons this and says “ah causes,” apparently completing the word search. However, he then pauses again, shown in frame 1, and says “cause” with rising intonation while moving his hands and gaze back to his dictionary (frame 2). Most of the long pause in line 03 is taken up with Hamada using his dictionary. Near the end of the pause (frame 3) he turns the dictionary toward Tanabe and points to something on the screen. Tanabe responds by shifting his gaze to the dictionary and saying “cause.” As shown in frame 4, both participants keep their gaze on the dictionary as Hamada repeats “cause” in line 04. Hamada then turns his dictionary away from Tanabe and leans back (frame 5) as he again says “cause.” He keeps his gaze on his dictionary through the following long pause, as he says “the ice,” pauses again, and articulates the first syllable of “melted” (frame 6). Finally, as he articulates the second syllable of “melted,” he shifts his gaze to meet Tanabe’s (frame 7).

Again, it is possible to make a few observations. First, Hamada points to something on the dictionary screen, so the layout of items on the screen does not necessarily make it clear which item is the relevant one. Second, although this excerpt also involves the sort of repair practices discussed by Barrow (2009, 2010), the participants' actions in lines 03 and 04 can be further understood as self-initiated other-repair (Schegloff, et al., 1977) related to how to articulate a word, with Hamada initiating repair by turning his dictionary to Tanabe and pointing, and Tanabe doing the repair by saying "cause." Third, the participants orient to Hamada's ownership of his dictionary. Tanabe, while he keeps one or both hands on his own dictionary, leans towards Hamada's dictionary as he gazes at it, but does not attempt to manipulate it himself. Hamada, after he has elicited Tanabe's assistance, reorients his dictionary back toward himself. Fourth, the configuration of furniture and participants' bodies creates a shared space in which Hamada can turn the dictionary so that both of them can simultaneously see the screen. Finally, by turning the dictionary toward Tanabe and pointing at the screen, Hamada is able to attract Tanabe's attention to the dictionary screen.

In Excerpt 4, the analysis will be focused on Abe (A), seated in the middle, facing the camera.

Excerpt 4 <http://youtu.be/NP2uAR0DVL0>

01 A: ah:: (1.2) ↑so: (0.4) ↑sometimes the m-
 02 media (.) uh like a newspaper or eigh-
 03 (.) a tee vee ((TV)) program .h uh: have
 04 uh (1.2) uh (2.1) ↑provide a (0.3) uh: (2.5)
 05 larger larger meaning.
 06 (2.8)
 07 A: eh heh heh
 1
 08 D: heh
 09 A: .hh (0.2) can I look at the dictionary?=hh
 2
 10 (0.8)
 11 B: no.
 12 A: no:?
 13 B: cunning.

long silence in line 06. In line 07, Abe laughs and reaches for his bag on the floor next to him, as shown in frame 1. In response to Abe's laughter, Doi (D), on the left, also laughs briefly in line 08. In line 09, Abe indicates why he is reaching for his bag by asking "can I look at the dictionary?" In frame 2 he is looking in his bag as he says this. There is then an exchange between Baba (B), on the right, and Abe about whether looking in the dictionary is allowed, but Abe does not treat this seriously and continues preparing to use his dictionary. As he finishes the word *really* in line 18, he opens his dictionary (frame 3). While looking in the dictionary, he gives an account for why he needs to do this in line 20 (frame 4). In line 24, Abe indicates that he has found what he wants by saying "yes." As can be seen in frame 5, he raises his head slightly as he says this, beginning disengagement from the dictionary. He then says "ah" and "exaggeration," presumably the word he was looking for. Baba makes a minimal response in line 26, after which Abe again says, with some disfluency and repetition, "exaggeration." As he says this (frames 6 and 7), he closes the dictionary, looks to his right, and starts to place the closed dictionary on the table. However, as he begins to use the word he has found in a larger turn, in line 28, he instead returns the dictionary to his bag (frame 8). He next offers two translations of the word, in lines 30 and 32. What he then says in lines 34 and 35 is built syntactically as a continuation of what he has said in line 28, so that from line 28 to line 35, he says the sentence, "you know there's an exaggeration in some TV program or newspaper;" with the two translations inserted after the word *exaggeration*.

Once more, it is possible to make several observations based on this description. First, Abe neither holds his dictionary so that others can see the screen nor does anything to invite them to look at the screen. Nor do the other participants do anything to be able to see the screen. Abe's observable ability to remove the dictionary from his bag and use it within his personal and private space before returning it to his bag shows the participants' orientation to the dictionary as belonging to Abe.⁴ Second, Abe's dictionary use can be understood as self-initiated self-repair in third position (Schegloff, 1992). In line 05, he has reached a completion point, but does not receive any response, which can be taken as indicating a lack of understanding. He initiates repair by retrieving his dictionary and does the repair by reformulating what he has said with the word that he has found in the dictionary. While Abe engages in word search in lines 03 and 04, as can be seen and heard in the sound stretches, the inbreath, the pauses, and the nonlexical *uhs*, he completes the search and reaches a completion point in line 05. It is only when this completed turn gets no response that Abe initiates repair

as subsequent action. The organization of repair work and dictionary consultation in this excerpt is thus quite different from the same turn repair initiation described by Barrow (2009, 2010). Third, Abe's actions involved in using the dictionary take time. He treats this as accountable and uses talk to indicate what he is doing (line 09) and why (line 20). His accounting work in line 09 provides Baba with the opportunity to engage Abe in some nonserious interaction unrelated to the topic that they are discussing, but still in English. Fourth, Abe states the word that he has found and provides two translations. The others thus share in the benefits of Abe's dictionary use. Finally, though he does not treat seriously Baba's claim that using the dictionary is cheating, Abe switches from placing the dictionary on the table next to him, where it would be more accessible, to returning it to his bag. He treats the dictionary as something that is not properly out of his bag during the discussion and, perhaps, tacitly agrees that using the dictionary is cheating.

Conclusions

As did Barrow (2009, 2010), I have analyzed in detail some of what participants in L2 discussions do when they use their EDs. However, unlike Barrow's research, the focus of this study has been on the contingent and unique features of embodied use of EDs during interaction, rather than a collection of a particular practice. Nevertheless, based on the observations related to each excerpt above, it is possible to make some more general points about the use of EDs and to consider implications of these points. First, the layout of items on the screen may—but does not necessarily—provide information for other participants about what is relevant. This is an affordance of how EDs are designed and would seem to be a major difference from paper dictionaries, a difference, though, that is unlikely to be found through either experimental or questionnaire research. In paper dictionaries, the location of any particular word with relation to the other words does not change. The location of a word on the page is unrelated to the fact that it is the word that is being looked up. With an ED, in contrast, the location on the screen of the word that is being looked up is predictable. In addition, the design of EDs can constrain how participants use them in their interaction with others. Such affordances and constraints may have implications for teachers who wish to encourage students to use a particular type of dictionary.

Second, though they do this in different ways in different episodes of dictionary use, participants orient to dictionary ownership. Even when touching or moving another's dictionary, they do not bring it into their own

space. Some researchers who have conducted research related to EDs have considered the expense of these dictionaries as possibly preventing some students from owning one (Kobayashi, 2008; Weschler & Pitts, 2000) or limiting them to dictionaries of limited quality (Chen, 2010). How the participants use their dictionaries in the excerpts analyzed above does not reveal whether they think of them as expensive, but they do treat the dictionaries as valuable objects, in the sense that their ownership is publicly recognized. This has implications for student group work, in that a student without an ED may have reason to refrain from freely using another's. Third, the configuration of material objects and participants' bodies has consequences for how shared use of a dictionary is accomplished. How the participants arrange, for example, their chairs (or have the chairs arranged for them) can have consequences for what happens during the discussion. This also has implications for group work, in that the arrangement of chairs and desks may influence how students are able to work together. Fourth, physical manipulation of an ED, such as turning it one way or another, can have interactional significance (e.g., attracting another's gaze to the dictionary). Like other material artifacts (Cekaite, 2009), EDs can be a resource with which participants organize their interaction. Another implication for group work, then, is that the usefulness of these dictionaries for participating in L2 discussions is not limited to the provision of L2 vocabulary. Fifth, contrary to what is suggested by Barrow (2009), the participants do not seem to orient to any normative organization of dictionary use. The closest to a normative orientation among participants appears in Excerpt 4, in which one participant accounts for his dictionary use and another states that dictionary use is cheating. Though this is treated as nonserious, the participant who has consulted his dictionary chooses to return it to his bag, rather than place it somewhere that would make it more accessible. An implication for group work is that students engaged in classroom tasks may or may not view dictionary use as illegitimate.

Finally, EDs can be used to accomplish a variety of local interactional objectives. In Excerpt 1b, an electronic dictionary was used to topicalize a Japanese word and its English translation that had been introduced a few minutes earlier. In other excerpts, EDs were used to accomplish repair, but in each case, a different repair organization was involved. In Excerpt 2, in addition to repair practices associated with word search, the repair was organized as other-initiated, other-repair. In Excerpt 3, also in addition to repair practices associated with word search, repair was organized as self-initiated other-repair. And in Excerpt 4, it was organized as self-initiated self-repair in

third position. As mentioned in the introduction, research on how university students use EDs has relied heavily on questionnaires. However, although such research may be able to reveal the extent to which students use EDs to, for example, read a newspaper, write a report, or participate in a discussion, careful observation and analysis is necessary to reveal the variety of tasks that EDs can be used to accomplish while reading a newspaper, writing a report, or participating in discussions. This has implications for the direction of future research on EDs.

Notes

1. The terms *electronic dictionary*, *e-dictionary*, *portable electronic dictionary*, and *pocket electronic dictionary* have all been used to describe EDs. *Electronic dictionary* has also been used to describe CD-ROM-based and online dictionaries. In this paper, I do not include these latter types.
2. The popularity of such dictionaries may not be limited to university students, but it is this population's use of EDs that has been the object of research.
3. In order to facilitate ease of reading, talk from the transcript that is quoted in the text has had the details of the talk's production removed. For example, as shown in Excerpt 1a, "*jirai*" is produced quietly and with elongation of the final vowel, but the conventions used to show this (degree signs, colon) are not reproduced in the quotation in the text.
4. At one point during this recorded discussion, Abe loans his dictionary to Baba, who opens it, consults it, closes it, and then returns it. This way of using and returning it also shows his orientation to Abe's ownership of the dictionary.

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Eric Hauser received his PhD in second language acquisition from the Department of Second Language Studies, University of Hawai'i at Mānoa. His research is focused on interaction involving second language speakers of

English. He has recent publications in *Language Learning* and *Pragmatics and Society*.

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Online Appendix A

Transcripts With Frames

This appendix can be downloaded from <http://jalt-publications.org/downloads/jj/jj36.1_art1.pdf>

Appendix B

Transcription Conventions

Based on Jefferson (2004)

[start of overlap
]	end of overlap (not always marked in transcript)
=	latching (i.e., no beat of silence), or continuation of a turn across noncontiguous lines of transcript
(0.2)	silence, measured to tenths of a second
(.)	silence of less than two tenths of a second
:	elongation of sound, more colons indicate longer elongation
↑↓	shift in pitch up or down
→	line of transcript in which object of interest occurs
,	continuing intonation
.	falling intonation
?	rising intonation
up_	final flat intonation marked by underlining after last word
<u>into</u>	stress marked by underlining
°°	start and end of quiet talk
> <	start and end of faster talk
< >	start and end of slower talk
h	outbreath; more h-letters indicate longer outbreath
.h	inbreath; more h-letters indicate longer inbreath
(h)	laugh particle within a word
(x)	unintelligible talk; number of x-letters indicates best guess at number of syllables
(word)	best guess at a word; words in parentheses separated by slash indicate alternative hearings
(())	transcriber's comments in double parentheses

