

Scaffolding and Pairwork: A Sociocultural Analysis

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This paper examines the peer-to-peer talk of six Japanese learners of English in a higher education setting using sociocultural concepts for analysis. The aim of the study was to see if the findings of a number of sociocultural studies concerning student-student scaffolding were relevant to the Japanese classroom setting, and thus gain a deeper understanding of interactions between Japanese learners. In particular, evidence of peer-peer assistance was looked for, and whether that assistance was effective. The participants' talk was recorded, transcribed, and analysed for evidence of scaffolding. It was found that the study participants regularly provided assistance to each other in a variety of ways, and that there was considerable evidence of this assistance being effective.

この論文は英語を大学で学ぶ6人の日本人学生同士の会話を、社会文化的な観点から分析したものである。研究の目的は、学生間の学習の助け合いに関する数多くの既存の研究結果が、日本の授業の場でも当てはまるかどうか確認すること、そして日本人の英語学習者同士の関わり合いをより深く理解することにあった。特に学生同士のアシスタンスのエビデンスと、それが有効であるかどうかに着目した。参加者の会話を録音し、文字に書起こし、助け合いのエビデンスを分析した。その結果、実験の参加者たちは様々な方法で定期的に助け合い、またそのアシスタンスが有益であることを示す相当数のエビデンスも見出した。

THERE IS a general perception that the idea of the traditional, teacher-fronted classroom continues to play an important role in Japanese education. The idea that the teacher is the main source of information and learning is a powerful one for many. Further, the image of the shy Japanese student who is reluctant to correct their peers is one which many teachers of English as a foreign language will be able to identify with. However, is it in fact the case that the teacher is the only source of assistance in the Japanese classroom setting? The aim of this study is to shed light on the peer-to-peer interactions of Japanese students of English. Using sociocultural theory as a basis for analysis, student-student talk will be examined in order to further our understanding of the kinds of interaction taking place, whether assistance is offered, and whether that assistance is effective.

Collaborative Learning

Within sociocultural theory, social interaction is seen as essential in promoting development. In order for the interaction to be effective, however, it must occur within the Zone of Proximal



Development, the distance between what a learner can accomplish with assistance and what they can produce independently (Vygotsky, 1978). Within the ZPD of the learner, assistance from another, that “[creates] by means of speech, supportive conditions in which the novice can participate in, and extend, current skills and knowledge to higher levels of competence” is key (Donato, 1994, p. 40). It is through such assistance that collaborative learning can take place.

Using Vygotsky’s (1978) work on the inherently social nature of learning as a foundation, researchers in second language acquisition (SLA) have examined the interactions of both teacher-student talk and peer-peer dialogues for evidence of collaborative learning.

Teacher-Student Talk

A number of studies have been carried out investigating the learning processes within teacher-learner interaction, in which the teacher assumes the role of the expert, and the learner that of the novice. Aljaafreh and Lantolf (1994) and Nassaji and Swain (2000) both examined teacher-student interactions during private tutoring sessions over a period of time, and found some scaffolding given to the learners to be effective, providing it was appropriate. According to Aljaafreh and Lantolf (1994), assistance should be both *graded*, in terms of appropriate explicitness, and *contingent* upon the needs of the learner.

Student-Student Talk

Although the traditional sociocultural model identifies both an expert and a novice in learning settings, usually seen as a teacher and student respectively, in recent times, researchers have examined peer-peer collaboration also for evidence of effective scaffolding. Wells (1999) put forward the argument that learner development does not require a teacher, thus “whenever

people collaborate in an activity, each can assist the others, and each can learn from the contributions of the others” (Wells, 1999, p. 333).

Swain and Lapkin’s (1998) findings support this idea. Observing pairwork among language learners, evidence was found of both scaffolding and language development. De Guerrero and Villamil (2000), Donato (1994) and Ohta (2000) further support the notion that peer-peer interaction can encourage collaborative learning through effective scaffolding.

The Study

Many of the studies into peer-peer talk, and the scaffolding strategies employed within those dialogues, have taken place in non-Japanese settings. The aim of this small-scale study is to contribute to the body of knowledge concerning Japanese learners of English. By examining peer-peer interaction between Japanese learners in a higher education context, this study compares and contrasts the behaviour of Japanese learners with that found in the literature, and thus furthers our understanding of the interactions taking place in the classroom. With this goal in mind, the following research questions were asked:

1. Do the study participants assist each other?
2. If evidence is found of assistance being given, what forms does this assistance take?
3. Is there evidence of the assistance being effective?

The study involved six volunteers who were undergraduate Japanese learners of English from a Japanese University, studying for one semester at a British university. All of the learners were 19-20 years of age, with an intermediate or upper intermediate proficiency level (as determined by their regular teacher), and were familiar with the type of task used in the study. Further, the participants were also selected based on the fact that they had been studying together in the same class before the study took

place. It was therefore hoped that they would all be comfortable collaborating on the study task and willing to assist each other when necessary. It was felt that, had the participants not been familiar with each other prior to the study, affective factors may have negatively influenced the participants' behaviour. The intermediate/upper intermediate level was deemed to be appropriate for this study, as participants would have sufficient English skills to engage in discussions with their interlocutor, but would still have considerable potential for linguistic development.

The six learners were placed into three pairs, and were recorded carrying out a communicative language activity in a laboratory setting. The participants were given a storytelling task, based on a set of 8 pictures, given in random order. Standardised task instructions were given, followed by the pictures. Following the basic procedure used by Swain and Lapkin (1998), the participants were required to firstly place the pictures in the correct order, then take turns to describe them. After the complete story had been told verbally, the final element of the task required the story to be written down. The task type was chosen for its extensive scope for eliciting discussion between the learners, and also the students' familiarity with the activity. The dialogues of the pairs were audio recorded and transcribed.

Analysis

Ohta's (2001) list of seven scaffolding types was used as a framework for analysis of the data. This framework was chosen based on its explicit descriptions of scaffolding types, and also has the benefit of having been developed within the field of SLA.

Types of Scaffolding Methods (when interlocutor is struggling)

1. *Waiting*: One partner gives the other, even when struggling, time to complete an L2 utterance without making any contribution.

2. *Prompting*: Partner repeats the syllable or word just uttered, helping the interlocutor to continue.
3. *Co-construction*: Partner contributes an item (syllable, word, phrase, etc) that works towards completion of the utterance.
4. *Explaining*: Partner explains in L1.

Additional Methods (when interlocutor makes error):

5. *Initiating repair*: Partner indicates that the preceding utterance is somehow problematic, for example saying "huh?" This provides an opportunity for the interlocutor to consider the utterance and self-correct.
6. *Providing repair*: Partner initiates and carries out repair.
7. *Asking the teacher*: Partner notices the interlocutor's error and asks the teacher about it.

In order to assess whether scaffolding was appropriate for the learners' needs (i.e., within the learners' ZPDs), Aljaafreh and Lantolf's (1994) criteria of effective scaffolding—graduation and contingency—were used. Graduated help is defined as

Help provided . . . in a joint activity is designed to discover the novice's ZPD in order to offer the appropriate level of assistance and to encourage the learner to function at his or her potential level of ability . . . Help . . . normally starts at a highly strategic, or implicit, level and progressively becomes more specific . . . until the appropriate level is reached . . . (p. 468)

Contingent assistance is also defined as follows:

help should be contingent, meaning that it should be offered only when it is needed, and withdrawn as soon as

the novice shows signs of self-control and ability to function independently. (p. 468)

Findings and Discussion

The data recorded and transcribed from the three sessions with the pairs provided a rich variety of scaffolding examples. The assistance given by the learners to their interlocutors varied both in type and explicitness, and a number of examples will be discussed below.

Prompting and Co-Construction

Excerpt 1

1. Taro: So, car was broken, and, suddenly, they, found a, this house,
2. Mayumi: *House*
3. Taro: So, go to, the house, and, knock.
4. Mayumi: *Knock, ok.*
5. Taro: And third the owner come here, and, the- tell, or, tell, they ask to, uh;
6. Mayumi: *What happened*
7. Taro: *What happened- er., asked to*
8. Mayumi: *Un.*
9. Taro: Uh;
10. Mayumi: Oh, ok.
11. Taro: He asked to use your house.
12. Mayumi: *Un . . .*

In the above example, prompting, in which the partner “repeats a syllable, word or phrase just uttered, helping the interlocutor to continue,” (Ohta, 2001, p. 89) is clearly evident in

lines 2 and 4. In line 5, Taro struggles to choose the correct verb “tell” or “ask”. Mayumi helps to co-construct the turn in line 6, providing the next part of the utterance. In line 7 however, Taro continues to have difficulty selecting the verb, and the absence of further scaffolding from Mayumi indicates her lack of certainty also.

Mayumi’s prompting and ability to offer the next phrase in the utterance illustrates the cognitive process of “projection” (Levinson, 1983), in which

the listener not only works to understand what has been said, but mentally maps along with the utterance in progress while moving beyond to consider what may follow . . . the listener anticipates what might come next in the speaker’s production, making predictions about how the utterance may continue. (Ohta, 2001, p. 78)

Mayumi is able to anticipate Taro’s talk and is therefore able to offer assistance.

Excerpt 2

1. Yuki: Ah, ok . . . So they, said to, visit...said to visit, the castle, 1, 2, 3?
2. Daisuke: Somewhere . . .
3. Yuki: And . . . the, owner, or, uh, [master,
4. Daisuke: [Eh, yeah, yeah.
5. Yuki: has come . . . and they asked, to-s-
6. Daisuke: Please . . .
7. Yuki: Whether they can stay-
8. Daisuke: Oh yeah, ok. [And
9. Yuki: [And then-
10. Daisuke: She said ok.

Excerpt 2 above offers evidence of co-construction of utterances in the data. In line 3, Yuki is unsure of the correct lexical item to use (“owner” or “master”), and checks for confirmation with Daisuke, which is then given in line 4. In lines 5 and 9, Yuki appears to be struggling to continue with his turn, indicated by the long pause and false starts. Taking these as cues for help, Daisuke intervenes in lines 6 and 10, providing the next word and phrase respectively.

This collaborative effort to construct an utterance provides evidence of both the “projection” by the active listener mentioned above, and also of Donato’s (1994) pooling of expertise, in which the learners are “individually novices but collectively experts” (p.46).

Excerpt 3

1. Yuki: They . . .
2. Daisuke: They . . .
3. Yuki: They were into tr- the car . . .
4. Daisuke: The car . . .
5. Yuki: Had broken?
6. Daisuke: Had something wrong . . .
7. Yuki: Doesn’t work, doesn’t work, doesn’t, *ka* (Japanese particle, indicating doubt, or a question), wasn’t . . .
8. Daisuke: The car . . .
9. Yuki: The car, the car stops, stopped.
10. Daisuke: Stopped. And . . .
11. Yuki: Didn’t work anymore . . .

In the above excerpt, we can clearly see Yuki generating and testing hypotheses, as they jointly construct the utterance in question. In line 3, Yuki has difficulty in producing the appro-

priate phrasal verb “to break down”. Daisuke prompts him in line 4, repeating the last part of Yuki’s talk, as a form of assistance, which leads to Yuki explicitly bidding for help in line 5, testing his initial hypothesis. While Daisuke offers an alternative in line 6, Yuki avoids the problematic phrasal verb by producing a third option—“work”. From line 7 to line 11, the two learners co-construct the text, with Yuki opting for his second hypothesis as the verb to be used.

The generation and testing of hypotheses were put forward by Swain and Lapkin (1998) as important mental processes that lead to linguistic development, after observing learners carry out collaborative tasks. Excerpt 3 above also illustrates what Aljaafrah and Lantolf (1994) describe as “the collaborative frame”, in which the presence of a partner alters the way a learner orients him or herself to a language task. This is evidenced through confirmation checks, clarification requests and self-correcting, often without any intervention from their interlocutor. Line 7 in the above excerpt demonstrates this in effect, as Yuki generates hypotheses and changes his language without explicit help from Daisuke. Aljaafreh and Lantolf describe this as the most implicit form of assistance.

Recasting and Explaining

Excerpt 4

1. Daisuke: This is, the story,
2. Yuki: This is a . . .
3. Daisuke: A? . . .
4. Yuki: Because they . . . not yet- haven’t mentioned.
5. Daisuke: Ah . . . ok, this is a story about . . . *un*? This is a story on?

In this example, Daisuke makes an initial error in line 1, using a definite article (“the”) rather than the more appropriate indefinite

article “a”. In line 2, Yuki initiates repair with a recast (classified in Ohta’s framework as a Next Turn Repair Initiator, providing repair). When Daisuke expresses his uncertainty concerning the correct usage of the article, Yuki responds in line 4 by offering more explicit assistance, explaining the correct usage of “a” in his meta-comment. In line 5, Daisuke, comprehending his partner’s explanation, incorporates the correction into his utterance.

This excerpt shows an example of an explanation being employed as a form of scaffolding. It also demonstrates the learner’s interlocutor clearly adjusting his assistance according to the requirements of his partner. Yuki’s initial help is in the form of a recast, a relatively explicit form of assistance. However, when his partner fails to self-correct, he increases the explicitness of his scaffolding, explaining the rule concerning appropriate usage of the definite article. This relates to Aljaafreh and Lantolf’s criteria for effective assistance, as it appears to be both graded in terms of explicitness, and contingent upon the need of the interlocutor.

Excerpt 5

1. Taro: Which happen,
2. Mayumi: Which happened . . .
3. Taro: Happened in the forest, at midnight . . .
4. Mayumi: Midnight . . . at midnight?
5. Taro: Midnight,
6. Mayumi: Midnight is, just, 12 o’ clock...
7. Taro: Around midnight ((laughs))
8. Mayumi: Around midnight ok . . . Um- there were- there was? There is?

In excerpt 5, Mayumi corrects Taro’s verb conjugation error, offering a recast in line 2. Taro picks up on this, self-correcting

in line 3. He then uses the phrase “at midnight”, which Mayumi considers to be inappropriate. She initiates repair without providing it in line 4, querying her partner’s previous utterance by repeating it, raising her intonation. When this fails to lead to self-correction, she explicitly explains the reason for her disagreement, which leads Taro to utter a more appropriate phrase in line 7.

As with the previous examples, this extract illustrates the willingness of the participants to tailor their help, at first offering relatively implicit assistance, then more explicitly scaffolding if the interlocutor fails to self-correct. This appears to be a technique for discovering a partner’s ZPD, and bears resemblance to the procedure used by Aljaafreh and Lantolf (1994), in which the tutor in the study gradually increased the explicitness of their help, until the appropriate level was found. Although Aljaafreh and Lantolf were concerned with teacher-student interactions, studies by researchers such as Ohta (2000, 2001) and Donato (1994) suggest this kind of assistance is also possible between peers. The data in this current study also offers evidence of Japanese learners being able to carry out such a process, and regularly doing so.

Cognitive Load

Excerpt 6

1. Mayumi: *Un*. So . . .
2. Taro: So, um, they
3. Mayumi: They . . .
4. Taro: They think it is impossible to go back home, and go back town,
5. Mayumi: Go back town, ok., They think . . . to . . . go back town.
6. Taro: Go back- go back to, to the town . . .

7. Mayumi: Go back to;
8. Taro: The
9. Mayumi: The. Town, ok.

This portion of the data illustrates prompting and co-construction again. In this particular example however, an especially interesting exchange occurs. In line 4, Taro omits the preposition “to” from the phrase “go back town”. However, when, in line 5, Mayumi commits the same error, Taro notices the omission in his partner’s utterance, despite him making the same error in the previous turn. This is evidence of the effectiveness of collaborative learning, and can be explained from a cognitive perspective. According to Ohta (2001), the act of producing talk in the L2 places a heavy cognitive burden upon the speaker. However, when listening to an interlocutor, the learner has this burden lifted, and thus has additional cognitive capacity for “noticing” errors in their partner’s talk. This process of the active listener noticing errors in their partner’s utterances, when unable to do so in their own speech, is clearly demonstrated in the above data, and shows an advantage of learning with peers as opposed to by oneself.

It may also be argued that this illustrates Taro’s two types of knowledge—declarative and procedural (Anderson, 1983). Taro knows the relevant rule concerning the preposition “to”, but is not yet able to use it. According to Anderson’s cognitive model of learning, Taro’s declarative knowledge will gradually become procedural, as it is automatized.

Effective Assistance?

As has been shown above, a variety of peer-peer scaffolding types was found in the data. There are also numerous examples of scaffolding that appear to satisfy Aljaafreh and Lantolf’s criteria for effective assistance—graduation and contingency. A

further characteristic of effective assistance that may be added is that it should lead to development in the language use of the interlocutor. Due to the small scale nature of this study, with participants being recorded during one session only, it is difficult to state with any certainty as to whether the learners show signs of development. With this proviso in mind, however, there is some evidence of learners incorporating the scaffolding of their partner into their talk during the study sessions.

Excerpt 7

1. Hiro: Next., uh:, they tried to escape from him,
2. Naomi: *Un.*;
3. Hiro: by their car-,
4. Naomi: *un.*
5. Hiro: With their car,
6. Naomi: *Un.*
7. Hiro: uh, to:, their another house-,
8. Naomi: Ahum.

In the dialogic interactions between Hiro and Naomi, there is tentative evidence of Hiro’s development concerning prepositions. Initially, as shown in excerpt 7, he has difficulty distinguishing between the appropriate use of “by” and “with”. In lines 3 and 5, we can see Hiro generating two hypotheses—“by their car” and “with their car”. Later, Hiro explicitly bids for help with this problem, which Naomi provides:

Excerpt 8

1. Hiro: They, a couple,
2. Naomi: Ahuh,

3. Hiro: try to escape from, him.
4. Naomi: Ahuh.,
5. Hiro: By car, with car?
6. Naomi: By car.
7. Hiro: By car?

At a later point in the dialogue, Hiro incorporates Naomi's scaffolding into his utterance:

Excerpt 9

1. Naomi: To, to, the other house... escape from him, to the other house by car?
2. Hiro: Uh:, from him by car, escape from him by car, and, and go to go, went to,
3. Naomi: Ok ok ok...

This series of interactions indicates that Hiro is able to notice his error and correct it, with assistance from his partner. This would indicate that Hiro is in the process of internalising this ability, gradually moving from assisted performance to independent production.

Inappropriate Scaffolding?

While the majority of the data shows the study participants engaging in useful scaffolding, there are instances that show a learner providing inappropriate or misleading assistance.

Excerpt 10

1. Hiro: They're sleeping.
2. Naomi: He come again.

3. Hiro: *Un*, the devil?
4. Naomi: *Un*.
5. Hiro: And, the devil,
6. Naomi: Ah.,
7. Hiro: attack...

This excerpt shows the two participants discussing the "devil" in the story. However, this vocabulary item could be deemed inappropriate, with a phrase such as "the bad guy" or "the dangerous man" being more suitable. Hiro first uses the item in line 3, asking for confirmation from his partner, which is given. Once he receives the support, he continues to use it in line 5. Below is a further example:

Excerpt 11

1. Mayumi: They are a couple, and, they are just driving, the car, to go back home, and, *un?*, ((surprise)) and suddenly, the car, the car,;
2. Taro: Is broken
3. Mayumi: is broken . . .
4. Taro: And this story happen, and this story
5. Mayumi: Ah, ok.
6. Taro: happen, in the
7. Mayumi: Forest
8. Taro: forest at the midnight.
9. Mayumi: At the midnight, ok, thank you.

In line 2, Taro offers the verb "is broken" when the phrasal verb "broke down" would be more suitable. Mayumi repeats the verb in line 3, rather than offering an alternative. Further, in

line 8 Taro utters the phrase “at the midnight”, employing an inappropriate definite article, which Mayumi fails to notice in line 9, again repeating Taro’s utterance.

Although these examples are not common in the data, with the participants largely offering regular effective assistance to their partners, the possibility of inappropriate scaffolding being used during pair work is a real one. This points toward the fact that pair or group work does not absolve the teacher of all responsibility in the classroom. Rather, peer-peer scaffolding is something that should be monitored carefully, with expert mediation being given when necessary in an attempt to minimize unsuitable peer assistance. Therefore, while peer-peer collaboration can be a powerful tool in the classroom, it cannot and should not be a replacement for a teacher’s expertise.

Conclusion and Limitations

The motivation of this study was to examine the idea that Japanese students see the teacher as the only, or main source of assistance in the classroom setting, and whether in fact there are other sources available to them. The aim therefore, was to analyse student-student dialogues for evidence of scaffolding, and therefore gain a more fine-grained understanding of the interaction processes taking place between Japanese learners of English while working in pairs.

It was found that the study participants did indeed offer their peers a variety of scaffolding types, such as prompting, co-construction and explanations via meta-comments. Further, this assistance appeared to be sensitive to the needs of the learners, often being both graded and contingent (Aljaafreh and Lantolf, 1994).

While the data provides considerable evidence of effective student-student assistance, the limitations of this study should be kept in mind. Although it was designed to provide insights

into collaborative learning processes within Japanese pairwork, for logistical reasons the study took place in a Western institution. Therefore, while the participants were Japanese, it is possible that their learning styles were influenced to an extent by their experiences of studying in a British context. Further, the task was carried out, due to time constraints, in a controlled, laboratory type setting, which may limit its applicability to pair work in classroom settings. It is also a small-scale piece of research, with six participants taking part, and conducted over a short space of time.

It is put forward that an ethnographic study in a Japanese learning institution may offer further insights into how Japanese learners engage in scaffolding techniques in a more naturalistic setting. Further investigations could also be carried out concerning raising learners’ awareness of scaffolding techniques, with the intention of improving the effectiveness of peer-peer interactions.

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