The Occurrence and the Success Rate of Self-Initiated Self-Repair

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Abstract

Errors naturally appear in spontaneous speeches and conversations. Particularly in a second or foreign language, it is only natural that mistakes happen as a part of the learning process. After an inappropriate expression is detected, it can be corrected. This act of correcting can be initiated either by the speaker (non-native speaker) or the recipient. The former phenomenon is referred to in second language acquisition (SLA) research as self-initiated self-completed repair. This study examined whether the occurrence and the success rate of self-initiated self-repair by 32 Japanese senior high school learners are influenced by grammatical difficulty of triggers (initial errors or mistakes). The results showed the high success rate of self-initiated self-repair regardless of grammatical difficulty of triggers, which implies the importance of creating situations where students can self-initiate to repair their own errors and mistakes.

Keywords: self-initiated self-repair, grammatical difficulty, Japanese high school learners

Introduction

In Japan, the Course of Study (MEXT, 2009) has suggested that high school English classes should be more communication-oriented in order to improve students' communicative abilities in English. In this English teaching context, we have seen an unprecedented number of output-based communicative activities aimed at enhancing students' communicative abilities introduced into authorized textbooks. Many previous studies empirically show that learners' output and participation in interaction during communicative activities have important roles in the learning process (e.g., Long, 1983, 1996; Swain, 1985, 1993). However, in Japanese high schools, classes average around 40 students, making it practically impossible for teachers to have frequent one-on-one interactions and provide students with corrective feedback. Thus, in many cases,

students are left to perform communicative activities with other students without direct oversight of the teacher. In this situation, it is crucial for students to notice their own erroneous or ill-formed utterances in order to make an attempt to produce more accurate and more comprehensible output by themselves. In other words, they have to demonstrate self-initiated self-repair (Shehadeh, 2001).

Self-initiated self- repair

Definition

In the contexts of a native speaker (NS)/a nonnative speaker (NNS) and NNS/NNS interactions, NNSs occasionally correct or modify their output to make it more comprehensible after they detect their ill-formed previous utterance. This phenomenon is referred to, in second language acquisition (SLA) research, as self-initiated self-completed repair (Kasper, 1985). The learner him/herself realizes the trouble source (a trigger) and reacts to it by trying to repair it. The following is an excerpt of a self-initiated, self-repair extracted from Sato (2012).

> I go (trigger) ...um (self-initiated part)
> went to his house yesterday. (self-repair)

The student detected that the output, "go," was erroneous, stopped the speech flow, and finally corrected the error. In the present study, this type of act of correcting an erroneous, ill-formed utterance is called self-initiated self-repair.

Previous studies

Shehadeh (2001) examined the effects of self-initiated self-repair with adult L2 learners in an interactive task (picture description, opinion exchange, and decision making), by comparing it with the effects of other-initiated repair. The results showed that learners produced more modified output after self-initiation. He concluded that self-initiations have a crucial role in promoting modified output. Kasper's study (1985), which investigated negotiated information between a NS and an NNS, as well as NNS/NNS exchanges, also indicated that self-initiated self-repair is more important than other-initiated other-completed repair for successful language learning.

In the Japanese EFL environment, Sato (2008) examined self-initiated self-repair by Japanese learners of English with low English proficiency. The participants were 38 second-year students (20 males and 18 females) at a public high school who were not college bound, and most of them were not highly motivated to learn English. The study revealed that while the students were performing communicative tasks with a partner (another student), self-initiated self-repair did not occur frequently: In many cases students did not notice their own errors or mistakes [1] to correct them. When they attempted to self-repair, only 32% of self-initiated self-repair was successfully done: In the rest of the cases they repeated the same error or made another error. Sato interprets that for most of the students in the study, continuing the conversation could have been their first priority and that it is premature for them to produce self-repair. He concludes that without knowing or internalizing the grammatical items or expressions, learners can¬not notice their own mistakes and so cannot correct them.

Sato (2012) investigated self-initiated self-repair attempted by 32 Japanese high school students with intermediate English ability. They were highly motivated to learn English. In the study, learners were engaged in an interaction not with a partner (another student) but with a native speaker of English. Well-formed repair after self-initiation was counted as successful, and types of repair were classified as: error repair, different information repair,[2] and appropriacy repair.[3] Errors were subcategorized into four groups: grammatical error, lexical error, phonological error, and error of the first language use. The students' utterances were quantitatively and qualitatively analyzed to examine:

1. the success rate of self-initiated self-repair;

2. whether there is any difference in the occurrence of self-initiated self-repair according to the types of triggers;

3. whether there is any difference in the success rate according to the types of triggers;

4. whether there is any difference in the occurrence and success rate among four different types of error repair (grammatical, lexical, phonological, and the first language use).

The results showed that:

1. self-initiated self-repair occurred frequently and, in general, successfully;

2. error repair occurred most frequently;

3. there were not statistical differences in the success rate according to the types of triggers

4. among error repair, repair to grammatical errors occurred most frequently, and the success rate of L1 use repair was the highest and lexical repair was the lowest.

As the study has shown the relatively high success rate of self-initiated self-repair (77%), Sato has concluded that self-initiated self-repair attempts would lead learners to produce more well-formed than ill-formed output.

The results of these two studies are compatible with those of Lyster and Ranta (1997) who noted that only when learners have acquired an adequate level of English proficiency is self-initiated self-repair feasible.

Purpose of the study

Previous studies examined the occurrences and success rates of self-initiated self-repair (e.g., Sato, 2008; Shehadeh, 2001), and they were examined according to types of triggers as well (e.g., Kasper, 1985; Levelt, 1983; Sato, 2012; Schegloff et al., 1977). However, to the best of our knowledge, effects of grammatical difficulty of triggers on the occurrences and the success rates of self-initiated self-repair have not been examined. The current study was aimed at examining whether the occurrence and the success rate of self-initiated self-repair are influenced by grammatical difficulty of triggers. The following two research questions were formulated.

1. Is the occurrence of self-initiated self-repair influenced by grammatical difficulty of triggers?
2. Is the success rate of self-initiated self-repair influenced by grammatical difficulty of triggers?

Method

Participants

Participants in the study were 32 second-year, college bound Japanese high school students (15 males and 17 females, aged 16 or 17). All of the students had passed the entrance exams for the academic senior high school by scoring good points on the English portion of the tests. A native English teacher from Australia taught the students in a communication-oriented English class once every two weeks. He had been teaching English as an assistant language teacher (ALT) for five and a half years in Japan. In a questionnaire conducted just before the study, 28 out of 32 students (88%) answered that they liked the communicative English classes taught by the ALT and wanted to improve their English speaking ability. Thus, in this study we regarded them as low-intermediate students with high motivation to learn English and English conversation.[4] Before the study commenced, the author informed the participants that their conversations would be recorded for further analysis, and all of them gave approval.

Procedure

Each of the students and the ALT, David (this name is fictitious pseudonym), had conversations for the study. The form of conversation was an interview in which David asked questions and the student talked about his/her daily life including topics such as hobbies, study, family, future dreams and so on. Target structures were not set for the study, as this was a natural communication-based task. David had told students that he would evaluate their English performance. He knew that their interactions would be recorded but did not know the purpose of the study. David had not been given any instruction on which types of feedback he should give to students after their self-initiated self-repair. The researcher transcribed and checked all recordings. In a limited number of cases where there were still unsolved transcription difficulties, the original participants were invited to interpret the results.[5] The database includes 32 interviews totaling 362 minutes. The average length of the interview per student was 11 minutes and 33 seconds; the longest interview was 15 minutes and 30 seconds, and the shortest lasted 9 minutes.

In the present study, self-repair issuing from self-initiation after a trigger is called self-initiated self-repair. The following is an example of a self-initiated self-repair from the present study.

Example 1.
Student 1: Last night I watch, watched the movie on TV.

Student 1 detected her error (trigger), "watch," and successfully repaired it to "watched" by herself.

Analysis

It is very difficult to categorize grammatical items as easy or difficult. Varnosfadrani and Basturkmen (2009) acknowledge that it is difficult to distinguish between items that are early developmental or late developmental due to the absence of sufficient research on acquisition order. However, they decided to code structures as either early developmental or late developmental based on previous empirical studies (Dulay & Burt, 1973; Larsen-Freeman, 1976; Pienemann & Johnston, 1986) as the following:

Early developmental

1. Definite article (the)

2. Irregular past tense

3. Plural S

Late developmental

1. Indefinite article (a, an)

2. Regular past tense

3. Relative clauses

4. Active and passive voice

5. Third person singular S

We decided to use this categorization, regarding early developmental as easy or late developmental as difficult, and this category was labeled as "Categorization A."

As we mentioned earlier, categorizing grammatical items as easy or difficult is very difficult. Different researchers may categorize items in different ways. Krashen (1982) proposed ranks for items from early-mastery to later-mastery: Progressive (-*ing*), Plural *S*, *Be* copula → *Be* auxiliary, Articles (*a/the*) → Irregular past tense → Regular past tense, Third person singular *S*, Possessive *S*. However, as it is generally observed that Japanese learners acquire possessive –*s* earlier than articles (e.g., Shirahata, 1988), we decided to change the positions of the two structures: Progressive (-*ing*), Plural *S*, *Be* copula → *Be* auxiliary, Possessive –*s* → Irregular past tense → Regular past tense, Third person singular *S*, Articles (*a/the*). We divided the items into two groups as either early developmental (easy) or late developmental (difficult) and this category was labeled as "Categorization B." In Shirahata, Wakabayashi and Suda (2004), they set the order of the appearance of grammatical morphemes in Japanese learners' oral production as:

1. *Be* copula

2. Progressive (-*ing*)

3. Possessive *S*

4. *Be* auxiliary

5. Plural *S*

6.   Irregular past tense / indefinite article

7.   Third person singular *S*

8.   Regular past tense

9.   Definite article

This "Categorization B" can be regarded as compatible with their order as well.

Early developmental (easy):

1.   Progressive (-*ing*),

2.   Plural *S*, *Be* copula,

3.   *Be* auxiliary,

4.   Possessive *S*

Late developmental (difficult):

1.   Irregular past tense,

2.   Regular past tense,

3.   Third person singular *S*,

4.   Articles (*a/the*)

Categorizations A and B were used for the analysis. Students' self-initiated self-repair was categorized in terms of grammatical difficulty of triggers. The following are examples of self-initiated self-repair categorized in terms of grammatical difficulty of triggers either early (easy) or late (difficult) developmental. Trigger is written in italics, and repair, including a failed one, is underlined.

Example 2. Definite article, the (early in A, late in B)
S2: I like playing *a* piano, playing <u>the</u> piano. (successful)

Example 3. Irregular past tense (early in A, late in B)
S3: I *eat* many, <u>eated</u> many foods when I was a child. (failed)

Example 4. Plural S (early in A and B)
S4: When I was a high school student, I read many *book*, <u>books</u>. (successful)

Example 5. Indefinite article (a, an) (late in A and B)
S5: My friend had *dog*, had <u>a dog</u> in her home. (successful)

Example 6. Regular past tense (late in A and B)
S6: My father *give*, <u>given</u> me present. (failed)

Example 7. Third person singular S (late in A and B)
S7: Our coach *teach* us, <u>teaches</u> us tennis. (successful)

Example 8. Progressive (-ing)(early in B)
S8: I *studied*, <u>was studying</u>, when my friend telephoned me. (successful)

Example 9. Be copula (early in B)
S 9: He and I *am*, <u>was</u> in the same team. (failed)

Example 10. Be auxiliary (early in B)
S10: When I *watching*… I <u>was watching</u> the video, my sister came home. (successful)

In Examples 2, 4, 5, 7, 8, and 10 the students successfully initiated repair of their errors. However, in examples 3, 6 and 9 they failed to do so. The former was counted as successful and the latter as failed. One rater conducted categorization of self-initiated self-repair. A week after the first categorization, the same rater conducted it again. This method of classification follows Alderson et al. (1995), which explains that multiple rating sessions increase the reliability of the rating. Where there were discrepancies between the two ratings (3 cases were recorded), a second rater, a high school English teacher with more than 15 years of teaching experience, was invited to rate them. After discussion the disagreement was solved.

Results

In total, 111 self-initiated self-repair attempts occurred. Successful repair occurred 86 times and failed repair occurred 25 times. On average, a student attempted to self-repair 3.5 times, minimum 1 and maximum 8, and SD was 2.09. As for the success rate per person, average was 75.0%, minimum 0%, maximum 100%, and SD was 31.32.

Attempts to repair grammatical errors were made 34 times. [6] On average, a student attempted to repair his/her grammatical errors 1.1 times, minimum 0 and maximum 3, and SD was 1.16. Among grammatical repairs, successful repair occurred 26 times and failed repair occurred 8 times. As for the success rate, the average was 76.5%, minimum 0%, maximum 100% and SD was 29.47. Individual differences were not quite large in frequencies but large in success rates.

Table 1. *Occurrence of self-initiated self-repair to grammatical errors*

Total	Per-person (average)	Minimum	Maximum	SD
34	1.1	0	3	1.6

Table 2. *Success rate of self-initiated self-repair to grammatical errors*

Total	Successful	Failed	Success Rate (average)	Minimum	Maximum	*SD*
34	26	8	76.5%	0%	100%	29.47

The first research question addressed the occurrence of self-initiated self-repair in terms of grammatical difficulty of triggers. Twenty of them triggers were items in Categorization A (Early developmental: Definite article (*the*), Irregular past tense, Plural *S*. Late developmental: Indefinite article (*a, an*), Regular past tense, Relative clauses, Active and passive voice, Third person singular *S*), and 9 (45%) were categorized as early developmental or easy items and 11 (55%) were categorized as late developmental or difficult items. Twenty-seven of self-initiated self-repair were in Categorization B, (Early developmental: Progressive (-*ing*), Plural *S*, *Be* copula, *Be* auxiliary, Possessive *S*. Late developmental: Irregular past tense, Regular past tense, Third person singular *S*, Articles (*a/the*), and 11 (41%) were categorized as early

developmental or easy items and 16 (58%) were late developmental or difficult items. Table 3 summarizes the occurrence of self-initiated self-repair categorized by the grammatical difficulty of triggers.

Table 3. *Occurrence of self-initiated self-repair categorized by the grammatical difficulty of triggers*

	Early (easy)	Late (difficult)	Total
Categorization A	9 (45%)	11 (55%)	20
Categorization B	11 (41%)	16 (58%)	27
A + B	20 (43%)	27 (57%)	47

To examine whether there was a statistical difference in the occurrence of self-initiated self-repair attempts between early developmental and late developmental items, a chi-square statistic was calculated in Categorizations A, B, and A and B combined. The results showed there was no statistical difference in each of the three situations.

The second research question addressed the success rate of self-initiated self-repair in terms of grammatical difficulty of triggers. Table 4 shows the numbers of self-initiated self-repair attempts, successful moves, failed moves and the success rate for early developmental or easy items in Categorization A. Table 5 shows the same for late developmental or difficult items in the categorization. Table 6 shows the numbers of self-initiated self-repair attempts, successful moves, failed moves and the success rate for early developmental or easy items in Categorization B. Table 7 shows the same for late developmental or difficult structures in the categorization.

Table 4. *The number of attempts, successful moves and failed moves of early developmental or easy items (Categorization A)*

Type	Attempts	Successful	Failed
Definite article (*the*)	2	1	1
Irregular past tense	3	2	1
Plural *S*	4	4	0
Total	9	7	2

Success rate=78%

Table 5. *The number of attempts, successful moves and failed moves of late developmental or difficult items (Categorization A)*

Type	Attempts	Successful	Failed
Indefinite article (*a, an*)	2	1	1
Regular past tense	6	5	1
Third person singular S	3	3	0
Total	11	9	2

Success rate= 82%

Table 6. *The number of attempts, successful moves and failed moves of early developmental or easy items (Categorization B)*

Type	Attempts	Successful	Failed
Progressive (-*ing*)	1	1	0
Plural *S*	4	4	0
Be copula	5	3	2
Be auxiliary	1	1	0
Total	11	9	2

Success rate = 82%

Table 7. *The number of attempts, successful moves and failed moves of late developmental or difficult items (Categorization B)*

Type	Attempts	Successful	Failed
Irregular past tense	3	2	1
Regular past tense	6	5	1
Third person singular *S*	3	3	0
Article (*a, the*)	4	3	0
Total	16	14	2

Success rate =88%

In Categorization A, success rate of self-initiated self-repair of easy items (78%) was lower than that of difficult ones (82%). In Categorization B, which has taken some account of Japanese learners' developmental progression, the success rate of difficult items was higher (88%) than that of easy ones (82%). To examine whether there was a statistical difference in the success rate between easy items and difficult items, a chi-square statistic test with Yates' continuity correction was calculated because there were figures smaller than five in cells. This measurement was conducted in both Categorizations A and B, and it was found that there was not a statistical difference in each situation.

Grammatical errors that were not self-repaired were also counted. Table 8 summarizes the results.

Table 8. *The number of grammatical errors that were not self-repaired*

Type	Frequency	Category
Definite article (*the*)	6	early in A, late in B
Irregular past tense	10	early in A, late in B
Plural *S*	22	early in A and B
Indefinite article (*a, an*)	27	late in A and B
Regular past tense	4	late in A and B
Third person singular *S*	27	late in A and B
Progressive (*-ing*)	4	early in B
Be copula	24	early in B
Be auxiliary	4	early in B

Indefinite article (*a, an*) and Third person singular *S* are the most ignored or unnoticed errors (27 times), followed by *Be* copula (24 times) and Plural *S* (22 times).

Discussion and Conclusion

It was revealed that students attempted to repair their errors that were categorized as difficult (55% in Categorization A, 58% in Categorization B) more frequently than ones categorized as easy (45% in Categorization A, 41% in Categorization B). However, there was not a statistical difference, meaning that students are likely to successfully repair grammatically difficult items as frequently as easy ones. It was also shown that the success rates of difficult items were higher (82% in Categorization A, 88% in Categorization B) than those of easy items (78% in Categorization A, 82% in

Categorization B). However, as there was not a statistical difference, they are likely to succeed in repairing grammatically difficult items as well as easy ones.

In interpreting the high success rates of self-initiated self-repair in grammatical errors regardless of grammatical difficulty of triggers, we can refer to Kormos (2006), who claimed that formally instructed foreign language speakers who are taught grammar explicitly pay full attention to the linguistic form. Japanese EFL high school learners, such as the students in the study, are learning English in the accuracy-oriented learning environment in which grammar is taught explicitly in general. It can be assumed that the students in the study, who had explicit knowledge of even difficult items, monitored their output by using explicit knowledge and corrected their ungrammatical utterances successfully. Some may argue that implicit knowledge could have also been used in repairing their initial errors. However, it is important to note that, David provided students with adequate time to monitor their own utterances to repair. Thus, it can be interpreted that they mainly exercised explicit knowledge.

We have to look at, however, the fact that a lot of errors were not self-repaired. The most ignored or unnoticed items are the indefinite article (*a, an*) and Third person singular *S*, both of which were categorized as late developmental or difficult items, followed by the *Be* copula and Plural *S*, which were categorized as early developmental or easy items. Although both types of items (easy or difficult) were frequently unnoticed, it can be argued that difficult items were less likely to be attempted for repaired. Further study is definitely needed with retrospective interviews with all of the students to examine why they tried or did not try to repair. This would reveal more detailed mechanism of self-initiated self-repair.

As the present study showed a high success rate of self-initiated self-repair regardless of the grammatical difficulty of triggers, it can be suggested that self-initiated self-repair should be utilized more in Japanese high school classrooms so that learners can enhance the accuracy of their output. More specifically, teachers should expect that if they give students time to self-correct, students are likely to do so. Teachers may have to provide feedback as a last resort after giving time and opportunity for students to self-initiate and self-repair their errors so that learners can produce correctly reformulated utterances. Teachers can also encourage students to monitor their own utterances so that they can notice their errors or mistakes to repair them in order to increase grammatical accuracy when speaking. In addition, as students are likely to ignore some common grammatical errors, such as the indefinite article (a, an), the third person singular, or the Be copula, teachers should help students anticipate problems with those grammatical items.

As opposed to merely noticing an L2 example provided by feedback such as recasts, self-initiated self-repair involves a higher level of cognitive activity, accompanied by noticing the gap (Egi, 2010). Lantolf and Pavlenko (1995) states that self-repair is a desirable condition for fostering learning, by asserting that language learning depends not so much on input as on the choices individual learners make. Because of its high occurrence, prevalence and constancy, it also should be regarded as a normal learning strategy (Shehadeh, 2001).

This small-scale study examined whether the effects of self-initiated self-repair are influenced by grammatical difficulty of triggers, and reported the findings. However, this study does have a crucial limitation. As Varnosfadrani and Basturkmen (2009) acknowledged, it was difficult to categorize grammatical items as early developmental (easy) or late developmental (difficult). In the current study, categorization employed in Varnosfadrani and Basturkmen (2009) was adopted as Categorization A. However, this categorization, which treated Indefinite article (*a, an*), Regular past tense, Relative clauses, Active and passive voice and Third person singular *S* as all equally difficult, may lack validity. As for Categorization B, which was based on Krashen (1982) and was adapted in accordance with Shirahata (1988), there are also some problems: the definite article and indefinite article were counted together; and previous studies revealed that Plural S is acquired later by Japanese learners. In this study, items were divided into two groups with the first half of four items regarded as easy and the second half of the four items regarded as difficult. However, this categorization can be problematic. In addition, as two different categorizations were operationalized, in counting total number of occurrence of self-initiated self-repair categorized by the grammatical difficulty of triggers (Table 5), some items, such as Regular past tense and Third person singular, were counted twice. In future study, more valid categorization should be devised after overcoming these issues.

Since the findings are within the context of the learners and the NS investigated in this study, and due to crucial limitations, the study results should be taken as tentative and suggestive rather than conclusive. A focused empirical study in different settings with introspective data and more valid categorization of items is required in order to validate the findings and interpretations of the observed phenomena in the study. The importance of self-initiated self-repair for Japanese learners of English should be more widely acknowledged, if further studies support the findings and interpretations of the phenomena found in the present study.

Notes

[1] Ellis (1997) explains that errors occur because the learner does not know what is correct and that mistakes occur when the learner is unable to perform what he or she knows. In Sato (2008), Sato (2012) and the present study, however, a distinction between the two cannot be made because students' developmental levels in English are not fully examined due to practical constraints.

[2] A different information repair is the speaker's encoding of different information from a previous one (Kormos, 2000).

[3] An appropriacy repair is the speaker's encoding of information that needed to be "more precise, more coherent, pragmatically more appropriate, or less ambiguous" (Kormos, 2000, p.150).

[4] Although they had obtained high scores on the entrance exams in English, they cannot be regarded as intermediate learners if we refer to, for example, the American Council on the Teaching of Foreign Languages (ACTFL) proficiency guidelines (ACTFL Proficiency Guidelines–Speaking, 1999). In the interview, students were able to

communicate with the ALT. However, their utterances were often filled with hesitancy and inaccuracies as they searched for appropriate linguistic forms and vocabulary. This is compatible with an "Intermediate low" level of English proficiency described in ACTFL proficiency guidelines. As the scores of English proficiency tests such as the Test of English for International Communication (TOEIC) or Test of English as a Foreign Language (TOEFL) were not available, we decided to regard them as low-intermediate learners.

[5] One reviewer queried the possibility that the participants were able to alter their original statements at this stage. We cannot deny that possibility; however, as the interpretation was done while we were carefully listening to the recording, we believe there was little possibility for that.

[6] The rest of the self-initiated self-repair was categorized as either different information repair, appropriacy repair, lexical repair, phonological repair or repair to the first language use. For the current study, only repair to grammatical error was analyzed.

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