Corrective Feedback and Learner Uptake by English Learners of Chinese in Advanced Second Language Classrooms in the USA

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ABSTRACT

If advanced second language (L2) learners wish to improve precision in their use of L2, such as word choice and grammatical accuracy, can instructor's corrective feedback (CF) help? Previous studies (e.g., Coyle & Larios, 2014; Lee & Lyster, 2016) have shown that CF plays a facilitative role in one's second language acquisition at the beginning and intermediate levels of L2 learning. However, what is not yet clear is the effect of CF at advanced levels. The present study reports two characteristics of CF and learner uptake in an advanced Chinese as a second language content-based instructional setting: (1) types and frequency of CF; and (2) the effect of different types of CF on learner uptake. Ten subject-matter lessons with twelve participants were observed. The data were analyzed using Lyster and Ranta's (1997) taxonomy of instructors' CF strategies and learner uptake. The results indicate that metalinguistic feedback was the most dominant type of CF and recast was least used and that explicit correction was most effective in eliciting learner repair and clarification request was least effective. The findings suggest that the critical conditions for repairs to take place in the advanced language classrooms include explicitness and salience of CF, learners' awareness of the intention of CF, their understanding of the linguistic nature of the correction, and their possession of the language skills necessary to fix the mistakes. Furthermore, the results have implications for the field of Teacher Education to consider options in preparing L2 instructors to offer effective CF at advanced levels.

Keywords: Corrective feedback; Learner uptake; Error treatment; Advanced second language instruction.

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1. Introduction

Should errors in second language (L2) learners' speaking performance be corrected? If L2 learners wish to improve precision in their use of L2, such as word choice, can L2 instruction help? If yes to both questions, what are the pedagogical options for language instructors to enhance learners' accuracy in rehearsed performances, such as a speech that has been repeatedly practiced before it is performed to a real audience, and spontaneous communication, such as a conversation between a patient and a doctor during an medical examination? What are plausible explanations for occurrences of errors? According to Hendrickson (1979), when L2 learners become unable to receive input or generate output in the target language as proficiently as they are able in their native language, errors can occur. Following

this logic, errors represent the gap between how learners communicate in their L2 and how native speakers of the target language linguistically function in the same context. To bridge the gap or shorten the width of the gap, provision of feedback is one of the pedagogical vehicles that is often adopted by language teachers in classrooms to inform students of their output being non-target-like. Use of feedback in second language acquisition (SLA) thus has been widely studied by researchers (Lyster & Ranta, 1997; Long, Inagaki, & Ortega, 1998; Mackey, Gass, & McDonough, 2000; Ellis, Basturkmen, & Loewen, 2001a; Loewen, 2004; Sheen, 2004; Ashby & Brien, 2007; Yoshida, 2010).

How does teachers' feedback help L2 learners improve accuracy and eliminate misunderstanding of, for example, grammar points that had been previously learned? Feedback plays a critical role in L2 learning because positive feedback can provide learners with information necessary to recognize materials that they have successfully learned, and negative feedback can inform learners of the linguistic concepts that they had mistaken. How might the absence of feedback affect L2 teaching and learning? As Ashby and Brien (2007) argue, absence of positive feedback is often interpreted by learners that their production of L2 is incorrect. As a result, learners may react to a lack of positive feedback by questioning and altering their idea or hypothesis underlying the issue, even when their idea or hypothesis is in fact correct. On the other hand, when negative feedback is not received, learners often take it as a confirmation of their output being correct and can continue applying the same concepts despite them being erroneous. Ashby and Brien emphasize the importance of feedback in L2 learning as it can affirm learners' appropriate use of L2 and help them reject misperceived ideas and thus improve their L2 performance. In recognition of the role of feedback in L2 teaching and learning, this study is focused on the negative feedback mechanism and aims to analyze ways corrective feedback (CF), in either an explicit or implicit manner, improves accuracy in advanced learners' use of Chinese as a foreign language (CFL) in classrooms.

CF aims to help learners improve accuracy and eliminate misunderstanding of, for example, the meaning of a word that had been previously acquired, and studies have been carried out to investigate if and how this goal can be achieved. Most of these studies have reported positive effects of CF on the interlanguage development at the beginning and intermediate levels of L2 learning of single languages (e.g., Carroll & Swain, 1993; Lyster & Ranta, 1997; Mackey et al., 2000; Sheen, 2004; Coyle & Larios, 2014; Lee & Lyster, 2016; Yilmaz, 2016). What is not yet clear, however, is the extent to which L2 learners' spoken output benefits from CF instruction at advanced levels, and more specifically at such language levels of Chinese.

1.1 Purpose, Significance, and Research Questions

The purpose of the current study is to investigate potential effects of CF on L2 development in an advanced Chinese instructional context, in which a total of 12 advanced Chinese learners of Chinese were enrolled in two Chinese Advanced content-based classes. Investigation of this topic has significant implications for CF empirical studies and L2 pedagogical practice. Research on this issue could help the field of SLA further understand the potential benefits of CF in advanced L2 classrooms by providing information about ways in which various CF types result in advanced learner uptake and comparative effects of various CF strategies on repairs. In addition, the current study can contribute to the theory of CF by informing the cognitive processes that L2 learners experience during the uptake activities upon the receipt of CF. Moreover, the findings of this research can shed light on CF research with regard to how dominant feedback techniques vary across proficiency levels. In short, the current study endeavors to fill a portion of the research gap that lies at the intersection of CF and its effectiveness in an advanced L2 teaching and learning context.

This study investigates two characteristics of CF that arise in an advanced content-based L2 instructional setting: (1) types and frequency of CF and (2) the effect of different types of CF on learner uptake. Informed by the theoretical framework of FonF instruction, the present research adopts Lyster and Ranta's (1997) taxonomy of teachers' CF moves and learner uptake and part of their research methodology to examine the following two research questions:

1. What is the distribution of the six types of CF in an advanced content-based instructional setting?
2. How does each CF type result in successful learner repair?

2.Literature Review

Chaudron (1997, p.31) defines CF as "any reaction of the teacher which clearly transforms, disapprovingly refers to, or demands improvement of the learner [non-target-like] utterance." CF, a type of negative evidence, takes place in the negotiation of meaning and of form among the student and teacher participants during L2 instruction (Ellis, 2016). In the present study, CF moves were a component of Focus on Form instruction (FonF) that the instructor implemented to teach the content-based classes in question. According to Long (1991), instruction is characterized as FonF when L2 learners' attention is openly drawn to linguistic features as they arise incidentally in a classroom, where the overriding focus of the tasks is on meaning or communication. CF is one of the strategies in operationalizing FonF, and it constitutes a reactive type of FonF, as opposed to preemptive. In other words, CF is a reactive type of FonF because the instructor reactively corrects learners' output after the mistake has taken place, while a preemptive FonF refers to attempts by learners or instructors to take a pause from communication to focus on some linguistic feature or item as an object when no mistake in the learners' output has been perceived (Ellis et al, 2001b). Learners' verbal response to CF is uptake, and it is defined as "a student's utterance that immediately follows the teacher's feedback and that constitutes a reaction in some way to the teacher's intention to draw attention to some aspect of the student's initial utterance' (Lyster & Ranta, 1997, p. 49). The uptake or a lack of uptake are the results of the instructor's CF moves.

2.1.Corrective Feedback

There has been debate among SLA researchers on the facilitative roles of positive and negative feedback in one's L2 development. Positive evidence offers learners with language examples of what is possible in the target language, while negative evidence provides information about what is not workable. Some researchers suggest that both positive and negative feedback are important in developing L2 learners' interlanguage (e.g., Doughty & Varela, 1998; Lyster, 1998). On the other hand, some favor a single perspective and claim that positive evidence alone suffices one's acquisition of L2 (e.g., Krashen, 1982; Sanz & Morgan-Short, 2004). Those supporters of CF, however, maintain that the role of negative or corrective feedback is facilitative and crucial in acquisition (e.g., Long, 1996; Iwashita, 2003; McDonough, 2005).

CF is a type of negative evidence, which is defined by Oliver and Mackey (2003) as feedback that is "provided in response to learners' non-target-like production" (p.519). In other words, negative evidence refers to the information that tells the L2 learners what is ungrammatical, inappropriate, or impossible in the target language. CF and negative feedback are often used interchangeably, and CF strategies include both explicit (e.g., repetition of the error with emphatic intonation, a clear indication of what was wrong, such as "you should say…") and implicit (e.g., the instructor's reformulation of a student's utterance by keeping the central meaning intact and eliminating the error) negative feedback moves that are offered to the learners during instructional or authentic conversational situations.

On the theoretical ground, Long's (1996) Interaction Hypothesis proposes that during negotiation of meaning a variety of input modifications and interactional moves arises, and these exchanges consist of different types of CF, such as repetition, reformulation, and clarification requests. These CF techniques subsequently provide L2 learners with implicit negative feedback that signals the occurrence of what is not possible or comprehensible in the target language. In addition to the theoretical standpoint, CF is also of research interest from the teaching and learning perspectives. Classroom-based studies of CF investigate a range of topics, such as the timing of provision of CF, the relationship between types of errors and CF, types of CF that teachers use, and the relation between types of CF and learner uptake. In the study of Lyster and Ranta (1997), recast is reported to be the most frequently used CF technique by instructors, but only 18% of

recast moves lead to student uptake. This result suggests that while instructors feel more inclined to use recasts, instructors might want to review their options in CF techniques at their disposal and take into account learners' proficiency levels when drawing on other feedback moves (Lyster & Ranta, 1997). Nevertheless, recasts continue to be the most commonly used CF move by language instructors in other studies (e.g., Panova & Lyster, 2002; Sheen, 2004; Davies, 2006; Zu, 2008; Zhong, 2011), though in the studies of Guo (2013) and Hsu (2016), explicit correction appears to be a more commonly adopted CF strategies than recast by the instructors whose native language is Mandarin Chinese.

On the other hand, in acknowledging that not all the CF is effective, some researchers try to provide plausible explanations as to why. Robber (1995) states that the two key considerations for CF to be effective are learners' awareness of themselves being corrected and their understanding of the linguistic nature of the correction. This viewpoint can be further complemented by the important role learners' developmental readiness plays in the effectiveness of CF (Mackey & Philp, 1998). According to this standpoint, recast moves would enable learner uptake when the learner is already developmentally ready to acquire the linguistic content of the recasts. In addition, when CF prompts are made direct and learners' awareness of the feedback being corrective is raised, CF moves tend to be more useful. Moreover, other variables that might affect effectiveness of CF are the amount of time spent on CF and the degree of its explicitness. Some research findings show that CF can be more effective in leading to learner uptake when more time can be devoted to more detailed, explicit linguistic explanations of the errors (e.g., Nassaji & Swain, 2000; Lasagabaster & Sierra, 2005; Sheen, 2007). The discussions of how CF promotes L2 learners' acquisition and improves accuracy have then invited research investigations in the measures of effectiveness of CF.

2.3.Learner uptake

Uptake refers to different types of immediate learner reactions to the preceding feedback, which is offered as a result of an observation of a gap in the learner's knowledge and thus includes either explicit or implicit information about a linguistic feature, and such a learner response presents repair of the non-target-like items and/or a continued need for repair (Lyster & Ranta, 1997; Ellis et al., 2001). The current study adopts uptake to measure the effectiveness of CF on advanced learners' acquisition primary because uptake allows the researcher to investigate the immediate modification of the mistakes in response to CF in classrooms (Sheen, 2004).

Some researchers consider learner uptake as merely a "discourse phenomenon," as Sheen (2004, p.117) puts it, which may or may not involve cognitive processes in acquisition of L2 and might not be a reliable indicator of acquisition. On the other hand, some argue convincingly that learner uptake plays a facilitative role in L2 learners' interlanguage development and may have a longer-term impact, and thus an empirical justification is found to investigate the relationship between CF and acquisition using learner uptake as the measuring instrument (Mackey et al., 2000; Williams, 2001; Loewen, 2004; Ishida, 2004; McDonough, 2005). Specifically, in Ishida's (2004) research, the effects of intensive recasting on second language learners' uptake of the Japanese aspectual form is investigated, and the result reports that overall learner accuracy is improved significantly in correlation with the number of recasts provided as the treatment, and the accuracy rate is retained, as shown on the delayed post-test. Furthermore, McDonough's (2005) study examines the impact of negative feedback and learners' responses on question development in English as L2 and reports that uptake (the author calls it modified output) that consists of developmentally advanced question forms in response to negative feedback is the only significant predictor of ESL question development. These two studies establish empirical evidence for learner uptake to be considered facilitative in acquisition and justified to be used as a measure of effectiveness of CF on language acquisition.

3. Method
3.1 Participants

The research questions study how instructors and students interact during error treatment in

a communicative learning environment. Therefore, only subject-matter sessions were chosen, and lessons focused on formal grammar, vocabulary, or pronunciation were excluded. *Classical Chinese* and *Chinese Culture* were the two advanced Chinese language classes observed in this study, and Content-Based Instruction (CBI) was adopted in both classes. According to Richards and Rodgers (2001), CBI refers to "an approach to second language teaching in which teaching is organized around the content or information that students will acquire, rather than around a linguistic or other type of syllabus" (p. 204). As such, a CBI teaching setting allowed the research questions to be studied. The present study includes ten lessons totaling five-hundred minutes' audio-recorded for data analysis.

The primary in-class tasks were communication-oriented discussions on the course content, and Mandarin Chinese was the only language used in class. Both of the classes in the study aimed to enhance the participants speaking skills from Advanced Low to Advanced Mid on the ACTFL scale. The topics discussed in the classes included issues pertaining to Chinese culture, history, society, literature, and topics of global public interests. The participants were guided to hypothesize, express their opinions, support their arguments in paragraph and extended discourse in both concrete and abstract senses.

Twelve participants were in an intensive Chinese program at a university in the United States during the time of the study. All the participants were native speakers of English, aging between twenty and twenty-one at the time when the data was collected. None of the participants were heritage speakers of Chinese. Upon the beginning of the present study, all of the participants had reached Advanced Low on the ACTFL scale (ACTFL, 2012) in their speaking skills on the standardized ACTFL Oral Proficiency Interview. The present study collected spoken language samples only; therefore, only the participants' speaking skills are considered in determining their Chinese level of proficiency. The participants were informed of the research objectives, procedures, and educational value. An understanding of the way students' role as human research project participants can contribute to their overall educational experience (McGinn, 2018). Thus, it is educationally justifiable that students are invited to be participants in research as part of a course when their involvement is closely aligned with course objectives and outcomes (Murray et al., 1996), which is the case of the current study. However, that the participants were made aware of the research purpose in this study may have created participant bias to affect the research validity, and the readers should interpret the research results with cautions. The measure taken to minimize the participant bias was to ensure that the participants had the opportunity to fully discuss their concerns and knew that their data was truly confidential and that the research results would be presented in a judgement-free manner so they didn't feel the need to do anything different than what they would normally do in class (McGinn, 2018). In addition, the participants were informed that they could elect not to participate in the research, and their choice would not affect the course grade or their learning in any capacity.

The i nstructor in the present study has taught Chinese as a second and foreign language at all levels for fifteen years, including four years at the secondary level and eleven at the college level. The instructor was the researcher and hence was fully aware of the research focus. This instructor-researcher setting may raise a validity concern with regard to how the instruction in the recorded sessions was representative of the regular instruction in the two courses. To minimize the instructor-researcher bias, McGinn (2018) suggests that the course content to be representative and consistent with the stated course objectives. Hence, the researcher planned the overarching course objectives, pedagogical strategies, and the course structures with reference to those of the other course sessions that were not recorded to ensure the consistence and representativeness. While the preventative measure was taken, the readers are advised to exercise caution when interpreting the data and research results

The recordings were initially transcribed and coded by a native speaker of Chinese who is also fluent in English and holds a bachelor degree. All the transcripts and coded data were subsequently verified by another native speaker of Chinese who is proficient in English and holds a bachelor degree. Both of the raters, who transcribed and coded the data, were informed of the focus of the present study and the coding system used by the researcher. Cohen's kappa statistic, κ, was

used to measure the inter-rater reliability, and the Kappa statistic is 0.85, which shows a substantial agreement between the two raters.

3.2 Measure the effect of CF

The current study adopts uptake to measure the effectiveness of CF on advanced learners' acquisition because it allows the researcher to investigate and observe the content of the immediate modification of the mistakes in response to CF in classrooms. However, it is worth nothing that the researcher does not intend to establish a relationship between the student participants' modified output, which consisted of immediate incorporation of the instructor's CF, and any long-term effects on their acquisition of the target language.

A sequence of error treatment in the present study is operationalized using the error treatment model designed by Lyster and Ranta (1997). A learner remark consisting of one or more of what the instructor considers errors is the starting point of the sequence, and then the incorrect use of the target language is either followed by CF from the instructor or topic continuation. If CF is offered, either learner uptake or topic continuation follows. If it is learner uptake that comes after the instructor's CF, then the initial mistake(s) in the learner utterance is either repaired or continuously in need of repair. If continuous repair is necessary, CF may again be offered by the instructor to start a new sequence of error treatment. A unit of this error treatment sequence is illustrated with an example in Figure 1.
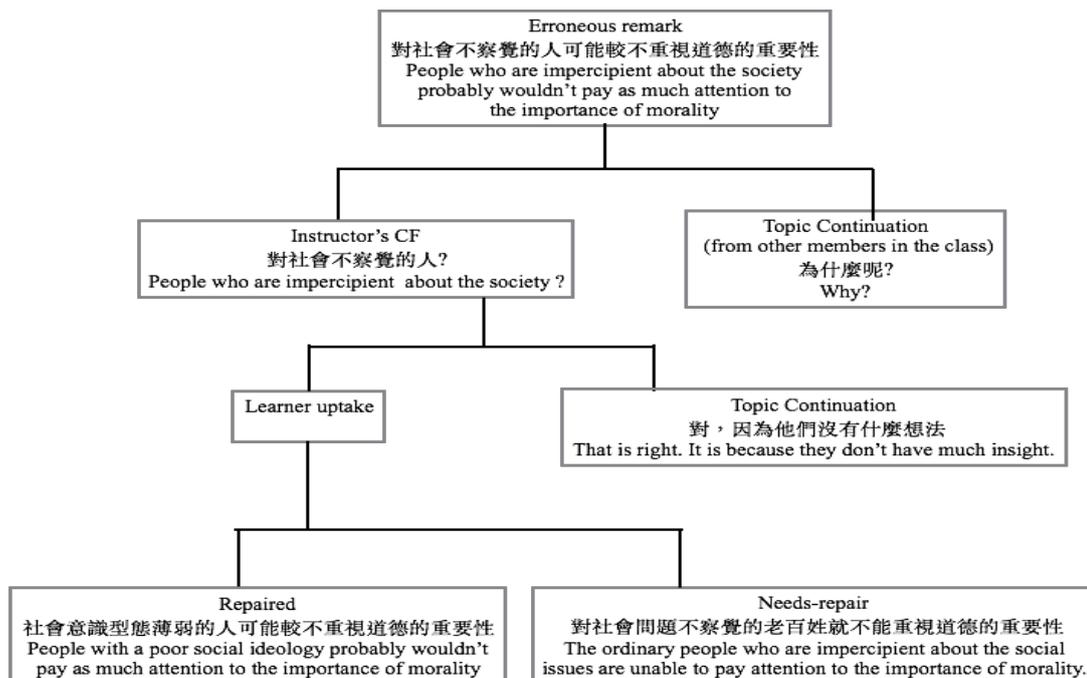

Figure 1. Unit of an error treatment sequence

Informed by the viewpoint of Mackey et al (2000), learner uptake served as evidence that when being offered CF by their instructor, the student participants understood the instructor' intention to correct learner erroneous utterance, and CF helped the student participants notice the gap between the form of their use of interlanguage and what the instructor considered correct in the target language. Units of error treatment were identified and coded using the model in Figure 1

3.3 Code CF and learner uptake

3.3.1 Learner error

All the student participant turns were coded either erroneous or not. In accordance with the way how Lyster and Ranta (1997) count student turns of utterance, unsolicited use of L1or brief utterances that had little or no possibility for error to occur were excluded, such as names of places

and people and hesitation fillers. Student participant turns were not coded as erroneous if the utterances were linguistically correct but the content was wrong.

3.3.2 Coding scheme of CF

Lyster and Ranta's (1997) taxonomy of the six CF types and its modified models are considered or used in CF research studies (Sheen, 2004; Lyster, 2004; Goo & Mackey, 2013; Fu & Hossein, 2016). Lyster and Ranta's coding system classifies only verbal CF provided in the target language. As such, non-verbal body language or translation offered by the instructor was not considered in the present study. This coding system follows its operational definitions of CF strategies and exclusively assigns each of the verbal CF moves into one of the six categories. This characteristic serves the coding needs of the present study, and thus the system was adopted without any modification. With reference to Lyster and Ranta's (1997) taxonomy of CF types, the instructor's turns within an error treatment sequence were assigned into one of the six CF types in the present study: explicit correction, recasts, clarification requests, metalinguistic feedback, elicitation, and repetition. Descriptions of each type of CF and instances from the data are as follows:

1) *Explicit correction*

The instructor explicitly provided correct form and indicated what was being corrected.

(1)

S: 那是美國南部很傳統的家的方式.

That is the traditional home style in the southern part of the United States.

T: 建築方式. 不能說家的方式.

Architectural style. You can't say home style.

2) *Recasts*

The instructor formulated or paraphrased part or the entire erroneous utterance with the original meaning intact.

(2)

S: 其實我不太喜歡動物，可是，我也覺得不能對動物有壞的待遇.

As a matter of fact, I don't like animals much, but I don't think we can give animals bad treatments.

T: 喔，也不該虐待動物，是吧.

Oh, we shouldn't abuse animals, right?

3) *Clarification requests*

The instructor misunderstood or didn't understand what the student participants intended to say due to problems in comprehensibility or accuracy and thus requested a clarification.

(3)

S: 這個巡警被年輕人獲獎.

The police officer was received an award by the young person.

T: 什麼？

What?

4) *Metalinguistic feedback*

The instructor repeated the mistake and pointed out the nature of the error in the student participants' utterances by offering metalinguistic information regarding the target language rules but did not explicitly provide the correct form.

(4)

S: 如果房子的主人以死謝罪了，可能美國人覺得會有鬼，所以就不會買那個房子

了。

If the owner of the house honorably did himself in to own up to his mistakes, Americans would think the house is haunted and wouldn't buy the house.

T: 以死謝罪? 以死謝罪這個詞通常怎麼用？

"Honorably do oneself in to own up to the mistakes"? How do we usually use this phrase?

5) *Elicitation*

The instructor asked questions to elicit the correct use from the student participants, and the question forms were often the following three types: 1) a fill-in-blank move to elicit completion; 2) questions to elicit correct forms, such as "what would a native speaker of Chinese say?"; 3) requests for reformulation, such as "do we have a different way to say it?"

(5)

S: 她崇高的道德表現，可以讓別人拷貝.

Her ethical conducts of high moral standards can be duplicated by others.

T: 她崇高的道德表現，可以成為別人的什麼？

Her ethical conducts of high moral standards can serve as what for others?

6) *Repetition*

The instructor repeated the student participants' ill-formed utterance with or without her intonation to emphasize the error.

(6)

S: 他殘障了，因為腿壞了.

He became handicapped because his leg is out of order.

T: 壞了？

Out of order?

3.4 Uptake

Uptake is defined as "a student's utterance that immediately follows the teacher's feedback and that constitutes a reaction in some way to the teacher's intention to draw attention to some aspect of the student's initial utterance" (Lyster & Ranta, 1997, p. 49). Following this definition, Lyster and Ranta explain that a student's uptake moves shows that s/he understands the overall intention of the teacher and attempts to respond to teachers' feedback, though the teacher's specific linguistic focus might not be clear to the student. Lyster and Ranta categorize learner uptake into two types, repair and needs-repair, as shown in Figure 1. After CF is offered, it is possible that no uptake takes place and the topic then continues when the teacher's intention goes unnoticed or the teacher does not offer an opportunity for uptake.

3.4.1 Repair

Repair refers to correction of an error in one single student turn and is categorized into four types: repetition, incorporation, self-repair, and peer-repair. Student participants' self-initiated repairs without being prompted with CF were not analyzed. Instead, only those repairs that were in response to the instructor's CF were considered, and such repair is termed as instructor-initiated repair.

1) *Repetition*

Student participants repeated the correct form provided in the instructor's CF.

(7)

S:其實我不太喜歡動物，可是，我也覺得不能對動物有壞的待遇.

As a matter of fact, I don't like animals much, but I don't think we can give animals bad treatments.

T: 喔，也不該虐待動物，是吧.

Oh, we shouldn't abuse animals, right?

S: 對，不該虐待動物.

Correct, shouldn't' abuse animals.

2) Incorporation

Student participants repeated the correct form provided in the instructor' CF and incorporated the correct form into a longer utterance.

(8)

S: 那是美國南部很傳統的家的方式.

That is the traditional home style in the southern part of the United States.

T: 建築方式. 不能說家的方式.

Architectural style. You can't say home style.

S: 美國南部很傳統的建築方式和美國北方的不太一樣，你懂我的意思嗎？

The architectural styles in the north and in the south in the United States are slightly different. Do you understand what I mean?

3) Self-repair

Student participants repaired the error after the instructor offered CF, which, however, did not already include the correct form.

(9)

S: 她崇高的道德表現，可以讓別人拷貝.

Her ethical conducts of high moral standards can be duplicated by others.

T: 她崇高的道德表現，可以成為別人的什麼？

Her ethical conducts of high moral standards can serve as what for others?

S: 可以成為大家學習的榜樣。

Can serve as a role model for others.

4) Peer-repair

The peer, other than the student participant who made the initial mistake, corrected the error after the instructor offered CF.

(10)

S1: 他殘障了，因為腿壞了.

He became handicapped because his leg is out of order.

T: 壞了?

Out of order?

S2: 腿瘸了.

The leg is lame.

3.4.2 Needs-Repair

The second type of uptake, needs-repair, describes six kinds of utterances and is described below with examples from the data.

1) *Acknowledgement*

Student participants recognized that the instructor had offered CF, and their responses could be "yes" or "that is what I meant to say."

(11)

S: 我住的城市是一個沒有發達的地方.

The city where I live is a place that hasn't advanced.

T: 你的意思是「尚未發展」的地方?

You mean "underdeveloped" place?

S: 你說對了.

You got that right.

2) *Same error*

Student participants repeated the same initial error in response to the instructor's CF.

(12)

S: 在這個故事裡,他父親要走的時候叫他們不要哭,因為他的一生都很良好了。

In this story, when his father was departing, he told them not to cry because his whole life has been a superb one.

T: 一生都很良好了?

His whole life has been a superb one?

S: 是的,一生都很良好了。

Yes, his whole life has been a superb one.

3) *Different error*

Student participants made a different mistake in response to the instructor's CF without correcting or repeating their initial errors.

(13)

S: 他的弱點是所有目標都不落實。

His weakness is that all his goals are not executed.

T: 聽起來很奇怪,再試一次。

This sounds very strange. Try again.

S: 如果想要提高弱點,即使精神痛苦,身體要堅持,達到目標。

If you want to elevate your weakness, your body needs to persist and achieve the goal even when you are in pain psychologically.

4) *Off target*

Student participants responded to the instructor's CF, but they found a way to go around the instructor's linguistic focus in the CF without making new errors.

(14)

S: 一個生活裡,一個人,生,然後死了,在痛苦裡可以看到友誼。

In one's life, a person, lives, then dies, friendship is seen in pain.

T: 聽不太懂,什麼意思?

I don't understand it. What do you mean?

S: 好,就是上次文言文的 「一死一生,乃知交情。」

Alright, it is what we learned in Classical Chinese last time "A friend in need is a friend indeed."

5) *Hesitation*

Student participants hesitated in responding to the instructor's CF.

(15)

S:賈伯斯在他不凡的車庫裡做了非常買得起的手機,科學貢獻很大。

Jobs created the very affordable cell phone in his extraordinary garage. His contribution to sciences is great.

T: 不凡的車庫？非常買得起的手機？中文是這樣說的嗎？

An extraordinary garage? Very affordable cell phone? Is this how we say it in Chinese?

S: 嗯…不…可以…嗎？

Mm…is it not?

6) *Partial repair*

Student participants corrected only part of the error when prompted by the instructor's CF.

(16)

S:週末在讓精神回來，因為上個星期提交了四篇報告，精神都消滅了。

Over the weekend, I tried to have my energy return. Because I turned in for papers, all my energy had been terminated.

T: 喔，你是說週末你在恢復元氣，因為寫報告寫到元氣大傷了。

Oh, you mean you tried to regain your energy over the weekend because having written papers has sapped your vitality.

S: 對啊，我試著恢復元氣，因為元氣都消滅了。

Yes, I tried to regain my energy because all my energy had been terminated.

4. Data Analysis

The present study aims to report the frequency distribution of each type of CF and the sub-categories of learner uptake in an advanced CFL learning context. The dataset also shows the extent each type of CF result in successful student repair. Hence, the data analysis is focused on frequency of student turns with error(s) (n=641), the instructor's CF (n=256), and learner uptake (n=161). Information regarding the types of student errors is not included in this study but will be discussed in another study. Types of the instructor's CF as well as student uptake and their interaction are analyzed. Table 1 displays the descriptive data collected during ten class sessions, totaling five hundred minutes.

Table 1 shows that 61% of the total student turns include one or more errors, and of these student turns, 40% are followed up with CF and the other 60% of the error occurrences do not receive feedback but a topic continuation. Among the 256 instructor turns with feedback, 86% lead to learner uptake and 14% result in a topic continuation move. 63% of the instructor turns with CF result in repair (Table 1). On the other hand, 23% of the instructor turns with CF lead to needs-repair. The 59 turns of needs-repair are 27% of the overall student turns with learner up-take. Finally, among all of the 641 student turns with at least one error, a quarter (25%) comes to repair in response to the instructor's CF. Then, do six types of instructor CF equally lead to learner uptake in general and uptake-repair specifically? Which CF move yields the most repair cases? Which CF technique produces the most frequent topic continuation when the instructor's intention goes unnoticed? Table 2 and Figure 2 can address the related questions.

Table 1 Frequency of student turns with errors, instructor CF, and learner uptake

Total Student Turns	1057
Student Turns with Errors	641 (61%)
(% of Total Student Turns)	
Instructor Turns with CF	256 (40%)
(% of Total Student Turns with Errors)	
Student Turns with Learner Uptake	220 (86%)
(% of Instructor Turns with CF)	
Student Turns with Repair Uptake	161 (63%)
(% of Instructor Turns with CF)	
Student Turns with Needs-Repair Uptake (% of Instructor Turns with CF)	59 (23%)
Student Turns with Repair Uptake (% of Student Turns with Errors)	161 (25%)

Table 2 shows the distribution and frequency of each type of the 256 instructor turns with CF in relation with the 220 learner uptake moves. The CF types are arranged in a decreasing manner of their frequency as follows: metalinguistic feedback (33%), elicitation (18%), repetition (14%), clarification request (13%), explicit correction (12%), and recast (10%). Figure 2 shows the ways that the total number of all 256 instructor turns contributes into the six individual CF types and the ways that each bar, which represents a CF technique, breaks down into three sub-categories, uptake-repair, uptake-needs-repair, and no uptake.

Table 2. Distribution and frequency of each type of CF and uptake

	Uptake		
	Repair	Needs repair	No uptake (topic continuation)
Metalinguistic feedback	61	16	8
(n=85, 33% of the total CF)	(72%)	(19%)	(9%)
Elicitation	29	11	6
(n=46, 18% of the total CF)	(63%)	(24%)	(13%)
Repetition	24	3	8
(n=35, 14% of the total CF)	(69%)	(9%)	(22%)
Clarification request	10	19	4
(n=33, 13% of the total CF)	(30%)	(58%)	(12%)
Explicit correction	26	2	3
(n=31, 12% of the total CF)	(84%)	(6%)	(10%)
Recast	11	8	7
(n=26, 10% of the total CF)	(42%)	(31%)	(27%)
Total (n=256)	161	59	36
	(63%)	(23%)	(14%)

Number of CF turns (n=256; % of the total CF)
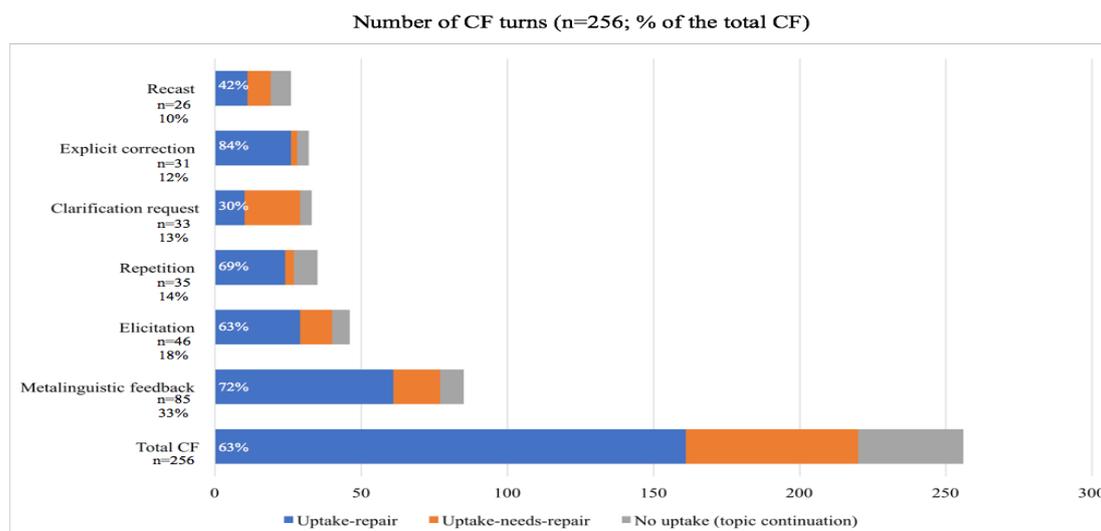
Figure. 2. The stacked bar graph displays the total number of each of the six types of instructor turns with CF and compares the three subsections in each CF type to visualize the whole and the three components in each bar.

Metalinguistic feedback, comprising 33% of the total 256 CF moves, is the most frequently used type of CF that the instructor adopted, and of the six types of the instructor CF, metalinguistic feedback is the most successful technique to elicit learner uptake (91%; repair 72% and needs repair 19%). In addition, metalinguistic feedback is the CF move that results in the second highest uptake-repair rate (72%). The highest repair rate (84%) takes place with explicit correction, and this CF technique was used 31 times, which accounts for 12% of the 256 instructor turns with CF. On the other hand, clarification request produces the least repair rate (30%) but the most needs-repair rate (58%). Finally, recast is responsible for the lowest figure (73%) for learner uptake altogether (repair 42% and needs-repair 31%). In other words, the recast technique has the highest no-uptake rate (27%), and, more than a quarter of the error treatment sequences that involve recasts proceeds with topic continuation.

5. Discussions and Pedagogical Implications
5.1 Six types of CF

The first research question aims to find out the distribution of the six types of CF in an advanced content-based language classrooms. The findings indicate that the instructor used all the six types of CF (% of all CF moves): metalinguistic feedback (33%), elicitation (18%), repetition (14%), clarification request (13%), explicit correction (12%), and recast (10%). The instructor used CF frequently, and the total occurrences of the CF moves were 256 in 8.3 hours (500 minutes). This means, in the CBI context where meaning was the focus, the instructor in general still directed the student participants' attention to form, on average 31 times per hour. In other words, the average of the CF offering is approximately one per two minutes in the study. This frequency may lead one to wonder how the occurrence of interruptions caused by CF may have affected the communication-oriented tasks in class. In the present study, since the lesson objectives were met and the activities were completed as had been scheduled, the implementation of CF does not seem to result in unreasonable interference to the communication flow in class. However, due to the nature of the current study that is focused on the relationship between CF and learner uptake, further research will be necessary to investigate the answer to the questions with regard to ways that CF can affect the momentum in student learning.

Among the six types of CF in the present study, metalinguistic feedback (33%) moves were the most frequently used error treatment strategy, and recasts were the least applied CF type. This result is different from those in the studies of Lyster and Ranta (1997) and Sheen (2004). In their studies, recasts were reported to be by far the most dominant CF type (55% in Lyster and Ranta's study and 60% in Sheen's), and the metalinguistic feedback strategy comprised only 8% of all the

CF in Lyster and Ranta's study and 5.8% in Sheen's. In these two studies, the participants were either in an immersion program or a foreign language program at elementary or intermediate levels. The high rate of recasts in their studies might be related to the L2 proficiency levels of their participants. According to Sheen, the use of recasts allows the language instructors in the study to emphasize fluency over accuracy and thus maintain communicative flows in their communication-based L2 classrooms. The participants in the present study were advanced language learners of Chinese, and the higher proficiency level might be one of the factors explaining why metalinguistic feedback is used most often while recast is used the least.

The high frequency of metalinguistic feedback in the present student is an interesting observation and may be attributed to the characteristics of the advanced Chinese curricula and students. The student participants in this study were advanced learners of Chinese and had an academic goal to attain both accuracy and fluency at the Superior level on the ACTFL scale in their oral proficiency upon their graduation from their undergraduate intensive Chinese program. This goal may have driven both the instructor and the student participants to rely less on the modeling feedback techniques, such as recasts, and more on CF techniques that could invite the learners to push the correct forms out of their realm of linguistic knowledge. In addition, the advanced learners in the study were receptive of corrections and eager to understand the nature of the errors in their initial answers. Based on the information she gathered on what the students needed and what they were able to achieve, the instructor may have elected to use more metalinguistic feedback to draw the learner's attention to form. In the following example, the instructor chose the metalinguistic feedback move to focus the learner's attention on form and revisit his linguistic knowledge about the speech part of the word (強韌 indomitable).

> (17)
>
> S: 透過了這重重的考驗，他又一次強韌了他的生命力。
>
> Through numerous tests, he again indomitable his vitality and stamina.
>
> T: 強韌了他的生命力？強韌是個動詞嗎？
>
> Indomitable his vitality and stamina? Is indomitable a verb?
>
> S: 喔，透過了這重重的考驗，他又一次證明了他強韌的生命力。
>
> Oh, through numerous tests, he again proved his indomitable vitality and stamina.

Through the metalinguistic feedback in the preceding example, the instructor was able to provide an opportunity for the learner to rethink and correct the initial mistake. To make this particular revision, as shown in the example, the learner needed to consider the part of speech of the word (強韌 indomitable), reformulate the second part of the utterance, and introduce a new word (證明了 proved) in order to place the word (強韌 indomitable) in the right position in the sentence to conform to grammaticality and colocation rules. This CF strategy in this particular case wouldn't have otherwise elicited repair had the learner not been able to instantly resort to his pool of advanced words and reorganize the sentence structure. Similar linguistic tasks can be challenging for learners at intermediate and elementary levels due to their relatively more limited scope of overall linguistic knowledge. On the other hand, metalinguistic feedback strategy seems to be appropriate in advanced classrooms, which may explain why more metalinguistic feedback techniques were observed in the present study. From another perspective, this observation may simply reflect the preference of the instructor when offering CF. Future studies on teachers' choices in adopting CF strategies across learner proficiency levels can help the field further understand the relationship among CF, leaner uptake, language levels, and teacher preference.

Recasts accounted for only 10% of the overall CF moves and were the least used technique in the present study. The plausible explanations include the student preference, as mentioned above, and the observed practical difficulty in its implementation. In a number of cases, the student's utterances were a short paragraph in one setting over 50 seconds in duration, and the mistakes and confusion scattered in an unfocused manner. The fact that the student utterance was long in both timespan and length and that the dispersed errors involved both meaning and form made it technically exacting for the instructor to use the recast strategy with respect to, for example, which portion of the student's initial long responses should be reasonably included in the instructor's

recast. As a result, a clarification request was the first attempt of the instructor to provide CF. Similar student erroneous turns with mistakes in various places along a long utterance required a number of error treatment sequences for the learner to finally arrive at the desired degree of accuracy in the present study, if they did at all. The observation of the instructor's choices of the CF types shows that the L2 proficiency level of the participants was taken into consideration when a decision was made as to which type of CF better served the purpose of error correction.

Moreover, 40% of the observed student errors received CF from the instructor in the present students whereas it is 62% in Lyster and Ranta's study (1997). Roughly 31 times of CF were observed (CF n=256 and hours n=8.3) per hour in this study while in Sheen's (2004) study, CF occurred frequently across all the teaching settings, ranging approximately from 38 times per hour in Canada Immersion to 16 times per hour in the Korea English as a Foreign language classroom. In comparison, the provision of CF in the present study is the least frequent one among the three research projects, and the nature of an advanced L2 classroom might be able to shed light on the possible reasons. First, many of the student utterances during interactions were relatively long in the present study, and one exchange could take up to one to two minutes to complete. The limited turn-taking opportunities may be one of the reasons why the instructor was unable to provide more CF. Second, the in-class interactions were not limited to a teacher-student or student-teacher mode. Instead, many instances of turn-taking took place between students. In other words, a student's turn with error(s) may be immediately followed by another student's comment during discussions and thus did not leave a chance for the instructor to respond with CF, though mistakes were noticed by the instructor.

5.2.CF and Repairs

The second question asks how each CF type results in successful learner repair. The findings indicate that while explicit correction (n=26) presents the most effective repair rate, it shares a similar count of absolute numbers of occurrences with elicitation (n=29) and repetition (n=24). The high effectiveness of explicit correction can be a result of the instructor's inclusion of well-formed correction and explicit indication of what was wrong in the initial student utterances. Metalinguistic feedback, on the other hand, accounted for the largest absolute number of repairs (n=61). This technique was frequently used and often invited the student participants to consider their options in eliminating the initial errors and forming correct utterances, as captured in the following example.

(18)

S1: 早上洗臉的時候，洗得很快，突然把小指頭放進鼻孔，結果，血無處不在，嚇死人了。

This morning when I washed my face, I washed it very fast. Suddenly, I placed my pinky into my nostril. As a result, the blood was everywhere, scary to death.

T: 放進鼻孔？放，有慢慢輕輕的意思。你弄到都流血了，這個動作很快地由下往上，能用放嗎？

Placed into your nostril? "Place" carries the meaning of slowness and gentleness. You bleed everywhere as a result. Can you use "place" to describe this down-up rapid movement?

S2:突然插進鼻孔裡，然後血流成河。

I suddenly stuck it into my nostril, and then I shed blood like a stream.

Repetitions (69%) came third in the repair rate. Its good repair rate may be explained by the observations that most of the instructor repetitions were short and focused, and that the instructor's use of rising intonation when repeating learner errors seemed to effectively draw learner attention to their questionable output.

While the findings indicate that elicitation (63%) is similarly effective with repetitions (69%), the observation shows elicitation using "fill-in-blank" technique seemed less efficient in leading to repair, as displayed in the following example. The perceived inefficiency may be attributed to an

advanced learner's wide selection of possible choices in vocabulary and their developing skills in recognizing subtle differences in meaning among synonyms.

(19)

S1: 當時是天朗氣清，惠風和暢, 祭祖的美好時機

At that time, the sky was bright and clear, the air was fresh, and the breeze was gentle and bracing. It is a beautiful timing to visit your ancestors' graves.

T: 我們換個詞，這方面的好時機，中國人可以說這是祭祖的良什麼？四個字。

Let's change to a different phrase. What is the word that Chinese would use to describe this type of good timing for a grave visit? Four words starting with the liang sound.

S2: 良辰美景？兩全其美的時機？

An enchanting sight on a fine day? or Win-win timing?

Pedagogically speaking, the language practice in the preceding example can be a good exercise because students have the opportunity to review synonyms in their vocabulary bank and discuss their nuances. However, from the viewpoint of CF effectiveness, elicitation techniques may be considered less efficient in an advanced L2 classroom.

Of the six CF techniques, recasts produced a lower repair rate (42%), though one would think what not to be repaired since recasts include ready-to-use correct forms for learners to model. Sheen (2004) suggests that "the more salient recasts are, and the more they lead to uptake and successful repair" (p. 293), and the low repair rate in recast may be due to its varying degrees of salience in indicating learner errors. Zu (2014) further states that the nature of recasts can be less corrective and thus considered as a negotiation of meaning, instead of forms. As shown in the following observation, the participants could mistakenly consider a corrective recast from the instructor as simply a suggestion or an option to paraphrase what they had composed initially in a more sophisticated way. The ambiguity in the nature of recasts may make the instructor's intention less explicit to the learners. As a result, the student in the following example acknowledged the instructor's feedback without realizing the feedback was being corrective and thus didn't make an attempt to revise the initial erroneous utterance.

(20)

S: 如果你覺得這是對的，那麼你要順從這句話。

If you think this is correct, then you should obey this saying.

T: 把這句話謹記在心。

Keep this saying in mind.

S: 對，你也可以這樣子理解。

That's right. You can understand it this way as well.

Hsu (2016) proposes another explanation of why recasts seem to be less effective or less utilized in a Chinese as second language (CSL) classroom than it is in an ESL setting. According to Hsu's research, parts of speech in English often share similar pronunciations, such as to teach and teacher. This type of similarity can facilitate recasts to function as a correction strategy in ESL classrooms and, as a result, increases the frequency of application and repair rate. However, the linguistic nature of Chinese doesn't warrant this advantage for CSL leaners and thus results in a smaller number of occurrences of recasts in CSL classrooms (p.102). This view is worth of consideration and may account for some cases. In the present study, however, the advanced language proficiency was observed to allow the participants to repeat the recasts of short phrases without major difficulties, as shown in the example (16). Specifically, the absence of connection in pronunciations among the initial mistake (精神回來 "to have my energy return") and recast (恢復元氣 "regain my energy") did not stop the advanced leaner in question to successfully repeat the phrase. On the other hand, however, the leaner's ability of repeating words without resorting to sound correspondence did not help the leaner accomplish the repair task, either.

The discourse nature of the recasts also possibly plays a role in affecting its effectiveness. The learner errors in the present study were often not just one concentrated linguistic feature in a

brief student turn of output, nor were the errors associated with either form or meaning only. The observation shows that it could be challenging in an advanced classroom to isolate single mistakes to make recasts clear and then favorably lead to repair them. The following error treatment sequence, which was a link in a chain of error treatment on the same topic, shows how the discourse of a recast may have possibly contributed to the absence of repair.

(21)

S: 佛教的教條說，身體不是屬於我們的，身體自己可以經營，要生病就生病，要冷就覺得冷，我們自己唯一的身體都管不了，不能談論我們是不是會擁有世界。

The Buddhist teachings say that our bodies don't belong to ourselves. Our bodies take charge of themselves. When the body feels sick, it feels sick; when the body feels cold, it feels cold. If we can't even control our own very bodies, we can't discuss if we own the world.

T: 好的，我懂了，在佛教的教義裡，身體並不是屬於我們個人的，而是自行運行的。比方說，疾病，冷熱感受都不是受我們控制的。因此，如果，我們連最親密的身體都無法掌控了，還能談論我們人類是否擁有世界這個話題嗎？你再說一次。

Ok, I understand you now. According to the Buddhist teachings, one's body doesn't belong to oneself. Instead, it operates independently on its own terms. For example, sickness and sensations to cold and hot are not in our control. Hence, how can we discuss the issue regarding whether we humans own the world if we are unable to control our dearest bodies?

S: 老師，我說不出來。太難了。不過，妳說得很好！

Professor, I can't say it. It is too hard, but you spoke well.

Clarification requests came in last in terms of the repair percentage (30%), but it is worth noting that this strategy resulted in the highest needs-repair rate among the six CF techniques. The observation shows clarification requests were often made when the incomprehensibility arose due to complicated concepts that the student participants tried to express but their language skills were unable to support their delivery of. As a result, although the student participants were aware of the instructor's intention to correct them and to elicit well-formed output, they were incapable of providing the desired revision. While the learners might not be necessarily able to repair the mistake without making new or the similar mistakes, they tried and landed in the needs-repair category. Clarification requests pushed the participants to reorganize the thoughts, refine the answer further, and negotiate the meaning, which is a good language practice and can add to the learner's long-term interlanguage development. This observation is supported by Hsu's (2016) study, in which the clarification request is observed to facilitate learners' self-assessment of language progress, acquired skills, and remaining limits in language use.

It is also worth noting that the clarification request may have been able to increase the repair rate had the requests, such as in the example (3), been made more specific as to what was not comprehensible to the instructor. However, it is equally important to recognize that while the sessions recorded were instructional, many of the conversations in these content-based class settings were authentic meaning-focused exchanges that were not necessarily pedagogically directed. In other words, the feedback in the example (3) "什麼 What?" can be considered as a natural response that could possibly take place in an authentic conversation between two native speakers of Chinese. Thus, by its nature, the feedback "什麼 What?" is understandably less specific than a response that is formed with a clear pedagogically-oriented purpose to begin with.

6. Conclusion

The purpose of the current study was to examine the two characteristics of CF that aroused in the advanced content-based Chinese instructional setting. The findings need to be interpreted with consideration of the overall specific teaching and learning context, the linguistic nature of the target language, and the participant and instructor-researcher bias. The participants in the study

were a nonrandom convenience sample, and as a result of the nonprobability sampling procedure, valid inferences cannot be made about the larger group from which the participants were drawn, and the research results are limited with regard to generalization. In addition, the small sample size in the study decreases Statistical Power and makes it difficult to detect effects. Furthermore, the study considers learner uptake an indication of language development and a measurement of CF effectiveness. However, the study was not designed to determine any long-term effect of CF on acquisition of the target language.

The findings show that not all the CF strategies are equally effective in leading to uptake in the advanced language classrooms. Based on the observations, the critical conditions for repairs to take place include learners' awareness of the intention of CF, their understanding of the linguistic nature of the correction, and their possession of the language skills necessary to fix the mistakes. The explicitness and salience of CF also play a role in its effectiveness on learner uptake. Moreover, in many error treatment sequences, the individual learners' developmental readiness and proficiency decided if the repairs were feasible. In other words, for example, the same CF strategy may successfully lead to repair in the case of Participant A but not Participant B due to their differential capabilities in recognizing the linguistic nature of the errors and corrections and then instantly fix them.

The study results show that metalinguistic feedback is the most dominant type of feedback, which is different from the results in the previous research (e.g., Lyster &Ranta, 1997; Panova & Lyster, 2002; Nobei & Swain, 2002; Sheen, 2004; Lyster & Mori, 2006). The observations indicate that the use of metalinguistic feedback did not unreasonably interrupt the flow of communication in the advanced Chinese classrooms and that the advanced students in this study seemed engaged in clarifying their understanding in linguistic features, eliminating their misunderstanding, refining their underlying hypotheses about their L2, and pursuing a high degree of accuracy. These observations might explain why metalinguistic feedback was frequently used and produced the second highest effectiveness rate of eliciting repairs.

Why were some errors repaired in response to the CF strategies while some were not in the present study? Further study is needed to investigate the relationship between errors and CF at the advanced level and to examine how many reasonable needs-repair steps there are before advanced learners reach the target accuracy if they do. Moreover, just as advanced students may have varying levels of success in responding to CF in terms that lead to repair, so too are instructors variably equipped to give CF that is likely to lead to repair at the advanced level. Research that investigates how learner repairs vary across instructors of diverse language and training backgrounds and why some instructors' use of CF lead to more effective repairs can inform the foreign language teacher education field with regard to the ways that L2 instructors can be better prepared for offering effective CF at the advanced level. The examination of the teacher factors, interaction of errors and CF techniques, relationship between needs-repairs and repairs would inform language pedagogy in advanced classrooms, which usually feature learners who are already at an adequate level of proficiency to actively and purposefully engage in a negotiation of form in the target language within a larger context of meaning-oriented, spontaneous classroom interaction.

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