The study is designed to examine the effectiveness of corrective feedback (CF) from Chinese second language (L2) teachers to their students in mainland China. Investigations into how CF works were carried out based on three aspects: teachers’ perceptions of CF effectiveness, factors affecting it, and their interplay. An ecological approach—the nested ecosystem model—was employed to analyze data collected from interviews and stimulated recall interviews. A total of 22 class periods from 11 teachers were observed, and 8 teachers were interviewed. Collected data were then analyzed with NVivo 11. Findings suggest that teachers’ main criterion for effective CF is raising students’ awareness of the error. Factors affecting teachers’ perceptions of CF effectiveness can be direct or indirect. Direct factors refer to the manner of CF provision, which was determined by reasons including error, teaching focus, audience, learners’ individual difference, teaching experience and class time. Indirect factors include empathy, cultural stereotypes and learners’ emotions. The influence of each individual factor on CF effectiveness, as well as the influence of their interplay, was examined. This study suggests that in the context of mainland China, teachers’ perceptions of effective CF were based on raising students’ awareness on the error; factors affecting CF effectiveness were largely the same as those in previous studies. What is new to the current study is that it highlights the influence of indirect factors from cultural and affective dimensions on teachers’ CF perceptions and the dynamic nature of CF effectiveness.

Keywords: corrective feedback effectiveness; awareness raising; manner of CF provision; empathy, cultural stereotype; learner emotion
Introduction

CF has been a significant research interest for decades, and there are extensive publications on the topic (Akbarzadeh, Saeidi & Chehreh, 2014; Brown, 2016; Li, 2018). The prominent interest in CF lies in the fact that it is an interface bringing together common concerns for language researchers and teachers (Ellis, 2017). Researchers are concerned with testing theories in the field of second language acquisition (SLA) that make different claims about the role of CF in language learning; teachers are interested in finding out the most effective CF type that can be used in their teaching practice. Observational classroom studies provide natural data for researchers to investigate CF in general, such as types, manner of provision, and learners’ response (Brown, 2016; Lyster & Ranta, 1997; Sheen, 2006, 2011). However, they have methodological limitations in the way they address teachers’ core concern—the relative effectiveness of different CF types. Researchers have been conducting quantitative experiments to manipulate factors involved in the CF interactions to compare the effectiveness of different CF types, and although a consistent facilitating role of CF in L2 development has been detected, it remains unclear what the most effective CF type is (Goo, 2012; Lyster & Mori, 2006).

More recent research findings are pointing to the necessity of further examining CF effectiveness from multiple dimensions, such as cognitive, linguistic and contextual (Lyster, Saito, & Sato, 2013; Ellis, 2010). To this end, classroom research is believed to have greater educational value as it can reflect the authentic environment where CF takes place; however, the challenge is how to deal with variables that can affect CF effectiveness in bustling classrooms (Lyster et al., 2013). As factors differ in each classroom, CF is best to be seen “as a process rather than the one-off application of a strategy and teachers should not just select randomly from the array of strategies available to them but should apply them systematically” (Ellis, 2017, p.12).

These trends in CF research suggest that an ecological perspective should be adopted to justify the working process of CF in an authentic classroom context. Actually, an ecological approach has already been adopted by some SLA researchers, such as Van Lier (2000, 2002, 2004), to study how people learn languages; yet, no attempt has been made to examine CF from this perspective. Another interesting phenomenon that needs to be addressed is that despite the fact that CF research is popular among researchers across the world, little attention has been paid to the context of teaching Chinese as an L2 in mainland China (Zu, 2014). It is surprising that considering the growing popularity of the Chinese language, little is known about how Chinese teachers use this teaching strategy in class.

This study is thus designed to address these gaps by exploring CF effectiveness with an ecological approach, aiming at revealing how CF is practiced in authentic classrooms with teachers of Chinese as an L2. The unique setting of this study, including the instructional and cultural contexts, the relatively less studied Chinese L2 teachers cohort, and the features of the Chinese language will assist in determining whether current conclusions about CF are applicable in a wider context. Moreover, the study is expected to generate insights about CF interactions. To our knowledge, this study is the first to investigate CF effectiveness from an ecological perspective in the context of mainland China. These three questions will be addressed: RQ1 What are teachers’ perceptions of CF effectiveness? RQ2 What are factors affecting CF interactions and how do they work? and RQ3 How does the interplay of factors affect CF effectiveness?
Literature Review

The role of noticing errors in CF effectiveness

Along with the enormous interest in identifying the most effective CF type, the role of noticing errors has received great attention. Despite any other affecting factors, any CF type that attracts students' attention to the error is more effective than one that does not. Noticing the gap between a learner's interlanguage system and the target language system can facilitate interlanguage development (Schmidt, 1994). Thus, essentially, effective CF should have the ability to help a learner notice the gap between their error and the target language.

For example, Sheen (2006) studied the characteristic of recasts in relation to learner repair in the context of communicative ESL and EFL classrooms. She found that recasts that were declarative in mood, reduced, repeated, with a single error focus, and involving substitutions were more effective, as they were more explicit in nature. Similarly, Ellis (2007) examined the effectiveness of a declarative recast and a metalinguistic feedback with past tense “-ed” and the comparative. Metalinguistic feedback facilitates learners’ L2 development of two structures in different ways: its effect on the comparative is in immediate post-tests, and on “-ed” in delayed post-tests. He attributed the effectiveness of metalinguistic feedback to its saliency-triggering ability over recasts.

Sheen (2011) compared the effects of recasts and metalinguistic correction on the acquisition of articles. Her study showed that the metalinguistic correction group outperformed the recasts group in both immediate and delayed post-test. She attributed the effectiveness of metalinguistic feedback to its ability to interrupt communication and draw a learner’s attention to the error.

Rassaei (2014) compared scaffolded feedback and recast on learners’ acquisition of English “wh-” question forms. His research results revealed that scaffolded feedback is more effective than recasts in developing learners’ L2 knowledge. According to him, the primary reason for this superiority lay in the fact that scaffolded feedback comprises multiple corrective moves, which provide learners with more opportunities to notice the linguistic gap and produce a modified output. All studies discussed in this section employed different CF types targeting different language points, and the CF type deemed most effective in each study is the one that can more effectively draw students' attention to the error.

Perceptions of factors affecting CF effectiveness

Knowing teachers’ and students’ CF perceptions (beliefs) is important as it reflects the real needs in classroom teaching. Positive perceptions can contribute to CF effectiveness (Sheen, 2007). In addition, insiders’ perceptions provide valuable information about how congruent or deviant research findings are from and classroom occurrences (Li, 2017). Therefore, perceptions have attracted stable, though not prominent, research attention in the SLA field as they can have great influence on learning behaviours (Dörnyei & Ryan, 2015).

For example, Brown (2009) investigated 49 teachers teaching Spanish, French and German. They thought that students’ errors should not be corrected immediately because the classroom should provide them with an environment where they can communicate about meaningful topics, complete real tasks, experience real culture and engage in pair or group work.

Schulz (2001) administrated a questionnaire to 122 Colombian FL teachers and 92 US FL teachers to examine their attitudes about CF. Findings of this study indicated that the two groups of teachers held similar CF beliefs. The majority thought that students appreciated being
corrected, and that using CF in class was necessary; however, many teachers preferred not to correct speaking errors.

Saeb (2017) investigated 28 EFL high school teachers about their CF perceptions. The analysis of quantitative and qualitative results showed that the majority of them (62.9%) preferred to correct errors that interfered with communicating ideas, while only a few (7.4%) thought it necessary to address all errors. Elicitation was considered the most useful CF type as it urged students to think.

These three studies prioritised teachers’ concerns when operating CF in authentic classrooms, such as their preference about communicative approach, error type, and students’ affective demands. Indeed, the use of a questionnaire makes it difficult to include all factors involved in CF interaction in one study and explore participants’ in-depth thoughts. A holistic approach is thus needed to this end.

Influences from cultural and affective dimensions

CF interactions occur between two or among more individuals where interpersonal relationships exist. Making the most out of any interpersonal interconnection (or CF interaction) relies on our ability to show empathy (Mercer, 2016). Krznaric (2014, p. x) defines “empathy [as] the art of stepping imaginatively into the shoes of another person, understanding their feelings and perspectives, and using that understanding to guide your actions”. In the context of intercultural classrooms, a safe and friendly environment can increase learners’ willingness to speak. For example, Gutióra, Brannon and Dull (1972) investigated the relationship between empathy and pronunciation, and suggested that a higher level of empathy indicated a better ability to imitate a foreign language. Rota and Reiterer (2009) also examined the correlation between pronunciation and empathy, and their statistical results indicated that empathy was positively and significantly correlated with pronunciation, phonetic, grammar and vocabulary learning abilities. However, studies exploring the role of empathy other than pronunciation in L2 learning are scarce.

Another affective factor is stereotypes, which are a topic associated with teaching English to speakers of other languages (TESOL). Ronai and Lammervo (2017) reported that a typical Australian English language classroom consists of a native English-speaking teacher and students from multicultural backgrounds; teachers usually group students depending on their national backgrounds as they believe that culture might influence students’ learning style, leading to a number of cultural stereotypes. A typical Chinese L2 classroom also includes a native Chinese-speaking teacher and students from mixed cultural backgrounds. Therefore, more research attention should be devoted to exploring whether cultural stereotypes exist in the multicultural Chinese L2 classroom.

Emotions are “short-lived, feeling-arousal-purposive-expressive phenomena that help us adapt to the opportunities and challenges we face during important life events” (Reeve, 2015, p. 340). They can play an important, sometimes decisive role in L2 learning. For example, Dewaele (2015, p. 13) argued that the success of learning a language “depends in large part on learners’ affective fuel levels, and that as teachers we have to keep the affective tank full”. While positive emotions provide invaluable support for learning, negative emotions can function as obstacles that prevent successful learning (Arnold, 2011).

The role of one negative emotion in CF—foreign language anxiety (FLCA)—has been explored. For example, Sheen (2008) investigated the influence of FLCA with 45 participants from a community college in the United States. These participants were from mixed Western and Eastern cultural backgrounds. They were divided into two experimental and two control groups based on their FLCA levels and CF types provided: high and low anxiety-level learners receiving recasts,
and high and low anxiety-level learners receiving no recasts. Sheen’s experiment adopted a pre-
test, immediate post-test and delayed post-test design across four weeks. Findings revealed that
recasts were only effective for low anxiety-level students, which meant that recasts could benefit
L2 learning, but their effects are limited. Apart from FLCA, however, little attention has been
given to the role of positive emotions (such as enjoyment, flow, or grit) in CF. This section
discussed some cultural and affective factors that may potentially have an influence on CF
effectiveness, though no empirical study has yet been carried out to this end. We believe that only
by positioning CF interactions in the classroom settings where they naturally occur can we capture
the essence of how they take effect.

The nested ecosystem model

The nested ecosystem model is an ecological approach that describes the contexts of an
individual’s development as “a set of Russian dolls” (Bronfenbrenner, 1979, p.3), one residing
within another. This study aims at investigating the process of CF interactions by applying this
model. The environment that affects an individual’s development can be conceptualized into four
nested subsystems: the microsystem, the mesosystem, the exosystem and the macrosystem
(Bronfenbrenner, 1979). The microsystem emphasizes direct factors in the environment that have
an influence on an individual’s development. The mesosystem focuses on the interconnectedness
among the settings in which a person may participate, while the exosystem represents the
interconnectedness among settings which a person may not enter personally, but which can
potentially change their immediate one. The outer layer is the macrosystem, which refers to the
overarching ideological and organizational pattern of educational institutions and the society at
large (Bronfenbrenner, 1979). In addition to each individual subsystem, attention should be paid
to the connections between the person and their environment, and how these connections are
created and shape the individual’s development (Bronfenbrenner, 1979).

The application of the nested ecosystem model in the SLA field is not new. For example, Gkonou
(2017) used it to investigate Greek EFL learners’ foreign language anxiety. Her study revealed
four nested subsystems that could affect a learner’s anxiety. The microsystem takes place in real
EFL classrooms, consisting of factors including speaking anxiety, peer pressure, etc.; the
mesosystem reflects the interconnectedness between the classroom and other settings, such as a
learner’s prior learning experience; the exosystem refers to the students’ belief in learning English
successfully; and the macrosystemic level reflects the structure of the Greek educational system,
which can cause anxiety in students. In addition to these four subsystems, Gkonou also found a
strong influence of the other three subsystems on the microsystem, and a dynamic interplay
among those four subsystems. This study extended our understanding of foreign language anxiety
from the classroom to settings that are not directly linked to it, leading the author to call for more
empirical studies to use the nested ecosystem model in examining other aspects in SLA.

In response to Gkonou (2017), this study aims at examining a classroom interactive activity
between two individuals by modifying Bronfenbrenner’s model into three subsystems—
microsystem, mesosystem and exosystem. Implementing the nested ecosystem model into this
study implies that not only factors in CF interactions, but also factors in the context should be
taken into consideration. In addition, the influence of the interconnectedness of these factors will
be investigated. These considerations inform the entire process of data collection and analysis.
Research Design

Research context

Teaching Chinese as an L2 started in 1950, and tertiary institutions have been the main educational context where international students learn the Chinese language since the very beginning. In (mainland) China universities, there are two types of Chinese L2 learners: “Chinese language students” and “degree program students”. Chinese language students need to pass the Chinese Proficiency Test (also called Hanyu Shuiping Kaoshi, or HSK) to qualify for a degree program delivered in the Chinese language; while for degree program students, the Chinese language is only a unit in their curriculum. Teacher participants in this study are language instructors to students of the first type.

Participants

Participants in this study were 11 teachers from a university in an eastern province in China. They were selected through purposeful contacts because they are all Chinese native speakers; they taught spoken and comprehensive classes, where teachers have more opportunities to interact with their students. The researcher’s convenience was another sampling criterion. These 11 teacher participants, of which eight also attended the interview session, work full time at the university where the author works. Information about gender, age, teaching length, educational background, professional title, their major and their class being observed is summarised in Table 1.

Table 1
Details of Teacher Participants (being interviewed) and Their Classes

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Teaching length</th>
<th>Degree/country</th>
<th>Prof. title</th>
<th>Class Level</th>
<th>Class type</th>
<th>Student No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dan</td>
<td>M</td>
<td>5Y</td>
<td>Master/ Russia</td>
<td>Lecturer</td>
<td>2</td>
<td>Spoken Chinese</td>
<td>19</td>
</tr>
<tr>
<td>Sen</td>
<td>F</td>
<td>5Y</td>
<td>Master/ China</td>
<td>Lecturer</td>
<td>2</td>
<td>Comprehensive Chinese</td>
<td>19</td>
</tr>
<tr>
<td>Wen</td>
<td>F</td>
<td>4Y</td>
<td>Master/ China</td>
<td>Lecturer</td>
<td>4</td>
<td>Chinese</td>
<td>21</td>
</tr>
<tr>
<td>Jing</td>
<td>F</td>
<td>10Y</td>
<td>Master/ China</td>
<td>Lecturer</td>
<td>1</td>
<td>Comprehensive Chinese</td>
<td>48</td>
</tr>
<tr>
<td>Min</td>
<td>F</td>
<td>5Y</td>
<td>Master/ Australia</td>
<td>Lecturer</td>
<td>3</td>
<td>Comprehensive Chinese</td>
<td>20</td>
</tr>
<tr>
<td>Li</td>
<td>F</td>
<td>2Y</td>
<td>Master/ China</td>
<td>Lecturer</td>
<td>5</td>
<td>Spoken Chinese</td>
<td>9</td>
</tr>
<tr>
<td>Qi</td>
<td>F</td>
<td>8Y</td>
<td>Master/ Australia</td>
<td>Lecturer</td>
<td>6</td>
<td>Spoken Chinese</td>
<td>15</td>
</tr>
<tr>
<td>Yuan</td>
<td>F</td>
<td>6Y</td>
<td>Master/ China</td>
<td>Lecturer</td>
<td>5</td>
<td>Comprehensive Chinese</td>
<td>9</td>
</tr>
<tr>
<td>Xin</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>3</td>
<td>Spoken Chinese</td>
<td>20</td>
</tr>
<tr>
<td>Hai</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>4</td>
<td>Spoken Chinese</td>
<td>21</td>
</tr>
<tr>
<td>Bing</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>4</td>
<td>Comprehensive Chinese</td>
<td>21</td>
</tr>
</tbody>
</table>

Note: (1) Teachers’ names are pseudonyms.

Data collection procedure

This study consisted of three phases: classroom observation, stimulated recall interview and in-depth interview, which generated a coherent set of data. Before conducting observations, consent was sought from participants. The researcher’s intention of focusing on “teacher-student” interaction was expressed clearly in the Plain Language Statement (PLS), which was given to
teachers when asking for their consent. When conducting the observation, one researcher came to the classroom before the class started, and set up two audio-recorders, one in front of the classroom and one at the back of the room. The researcher also sat at the back of the room. Since the researcher did not participate in any classroom activity, the whole class continued as usual, as teachers commented at the end of the interview. The researcher took field notes in class and recorded all classroom activities with audio-recorders. Following this routine, 22 class periods (each of the duration of 40 minutes) were observed over five months.

After each observation session, data were transcribed from the audio recording and all CF patterns from the data were coded; then, patterns needing further investigation were identified. The teachers involved in the CF excerpts of interest were given the PLS and Consent Form. With their consent, a stimulated recall interview (stimuli used in this session are attached as Appendix I) and an in-depth interview (an interview protocol is attached as Appendix II) were scheduled at their earliest convenience. The stimulated recall interview session was scheduled within 2 days of the classroom observation as conducting it within 48 hours of the event leads to a 95% chance of retrieving an accurate memory (Gass & Mackey, 2000). In the in-depth interview session, a semi-structured interview protocol was used to probe participants’ insights into the questions; the transcribed data relating to the teachers’ CF interactions were used as stimuli, and the recorded CF activities were played back when necessary to elicit their perceptions during the CF process. In this way, a complete set of data that included excerpts of naturally occurring CF interactions in the classrooms as well as participants’ reflections on the CF process and considerations about its effectiveness was collected.

Data analysis

Classroom observation data were coded and checked by authors of this study (both of whom are native Chinese language teachers) according to the “Error treatment sequence” approach (Lyster & Ranta, 1997, p. 44). Every single excerpt of CF interaction had been double-checked. A typical excerpt of a CF interaction consisted of five consecutive stages: triggering words, spotting an error, providing CF, learner uptake and class continuation. The interaction would begin with a teacher’s triggering words to elicit a question; then, an error would be spotted; next, CF would be provided by the teacher, followed by the student’s uptake; finally, the class would continue. In total, 132 CF excerpts were identified, 34 of which were used as stimuli for the interview sessions. Interviews were audio-recorded, then transcribed. Nvivo was used to facilitate data coding. A three-step coding strategy, including open coding, axial coding and selective coding (Charmaz, 2006), was adopted to identify patterns and themes, which were then interpreted on the basis of formal theories of CF or language learning and teaching.

Results

This section will report data concerning RQ1 and RQ2. RQ3 will be addressed in Sub-section 5.3 by interpreting and synthesizing all data.

Teaches’ perceptions of CF effectiveness

An overall supportive attitude of using CF emerged from the question “What is your understanding of CF”. The first research question, “What do you think is an effective CF”, targeted teachers’ perceptions of the most distinguishing feature of CF effectiveness. Participants’ responses to this question, the researcher’s interpretations, underlying reasons and extracted themes are presented in Table 2.
Table 2
Results of Teachers’ Perceptions of CF Effectiveness

<table>
<thead>
<tr>
<th>Participants’ account and data source</th>
<th>Author’s interpretation</th>
<th>Underlying reason</th>
<th>Extracted theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>An important role of CF is to inform the student that their utterance is wrong. If the student does not notice their error, how can the error be corrected? It is the teacher’s responsibility to help the students realise their error so that the student can seek a right answer in the future. (Qi-IN)</td>
<td>Qi believed that the language teacher should shoulder the responsibility of making errors noticeable. She, therefore, emphasised the importance of making students notice the error as the prerequisite for correction.</td>
<td>Teacher’s role</td>
<td>Awareness raising</td>
</tr>
<tr>
<td>I have to let him notice his error. He is now at Level Two (beginners’ level), and he will move on to Level Three (intermediate level) or higher. I cannot pass him without informing him of the error, but it is ok if he cannot correct it because as he progresses, he’ll be reminded by many other teachers. (Dan-IN)</td>
<td>Dan believed that noticing the error would be sufficient since the student was a beginner. If the student continued with language learning, there would be many chances of being corrected.</td>
<td>Learner’s language proficiency level</td>
<td>Awareness raising</td>
</tr>
<tr>
<td>Foreign language learning is “a process of moving from interlanguage to target language” (Yuan-IN). Some features, like Chinese four tones, are hard to acquire. Once the student knows his problem in pronunciation, he may spend more time practising, and this will lead to his improvement in the long run. (Wen-IN)</td>
<td>Yuan understood the process of how learners acquired a new language. Wen’s concern about Chinese tones was very practical as a few tones are difficult for foreigners to utter. She knew the benefit of CF might not be evident immediately but would gradually appear later.</td>
<td>Law of learning a new language</td>
<td>Awareness raising</td>
</tr>
<tr>
<td>In the first one or two years in my teaching career, I did hope that students would be able to correct their errors after my CF and they would never make the same error again. However, the fact was contrary to my assumption—the same error was made repeatedly. At present, I only expect that my CF may leave him with some impression, and next time when I correct the same error, the student will be able to retrieve their previous memory. (Sen-IN)</td>
<td>Sen’s teaching practice changed her attitude towards CF. As her teaching experience grew, her expectation of CF outcomes changed from the student’s acquiring the correct language form to having an impression on the error.</td>
<td>Teaching experience</td>
<td>Awareness raising</td>
</tr>
</tbody>
</table>

Note: “IN” is short for “in-depth interview”; “SR” is short for “stimulated-recall interview”.

Data from Table 2 suggests that “awareness raising” was the most important feature of a successful CF, though each participant’s rationale differed. Some participants believed that it was the teacher’s role to do so; some thought that learners’ language proficiency level or the target language feature determined it; others were affected by the rules of learning a new language or their teaching experience.

*Teachers’ perceptions of factors affecting CF effectiveness*

The second research question investigated factors affecting CF effectiveness. Participants’ answers to this question, their interpretations and identified themes are presented in Table 3. As many episodes reveal more than one theme, each theme was coded.
Table 3
Results of Teachers’ Perceptions of Factors Affecting CF Effectiveness

<table>
<thead>
<tr>
<th>Participants’ account and data source</th>
<th>Author’s Interpretation</th>
<th>Underlying reason</th>
<th>Direct theme</th>
<th>Indirect theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhs students in this class have severe problems in tones. Every time they utter a sound, they will look at me, and if there is any mistake, I may indicate them with hand gestures or facial expressions. They will then try to re-pronounce the word. If they fail after several attempts, I would provide them with the correct linguistic form. (Sen-SR)</td>
<td>Sen expressed her preference for encouraging students to correct themselves. She used hand gestures first and gave the correct answer when this strategy did not work. She also explained that she prioritised meaning over language form when facing a dilemma.</td>
<td>Error type</td>
<td>Manner of CF provision</td>
<td>Cultural stereotypes; empathy</td>
</tr>
<tr>
<td>If an error is common among students from the same country, say America or Korea, I believe that it is because of the influence from their native language and these errors will be treated more seriously. (Yuan-IN)</td>
<td>Yuan focused on errors influenced by native language</td>
<td>Native language</td>
<td>Manner of CF provision</td>
<td>CF beliefs</td>
</tr>
<tr>
<td>If a student’s error is about my teaching focus, for example a newly taught grammatical point or the pronunciation of a new word, I will directly correct it. (Yuan-IN)</td>
<td>Yuan emphasised correcting errors relating to a newly taught linguistic form, because it was her teaching focus.</td>
<td>Teaching focus</td>
<td>Manner of CF provision</td>
<td>CF beliefs;</td>
</tr>
<tr>
<td>When I am correcting an error, I explain it to the whole class, and I hope that all students can understand, not only the student who has made a mistake. (Dan-SR)</td>
<td>Dan’s statement reflected his belief in making errors understood by the whole class, and it was an alternative to grammar teaching.</td>
<td>Audience</td>
<td>Manner of CF provision</td>
<td>CF beliefs</td>
</tr>
<tr>
<td>I think that as the teacher we should correct errors when they first appear because our pronunciation is better than students’. (Dan-SR)</td>
<td>Dan focused on beginner students’ pronunciation errors; therefore, feedback from a native Chinese teacher was thought to be more favourable than that from other students.</td>
<td>CF provider</td>
<td>Manner of CF provision</td>
<td>/</td>
</tr>
<tr>
<td>If most students are in a negative mood, they may feel bored by hearing your feedback; on the contrary, if students have positive emotions, they may feel more likely to talk and more willing to accept your feedback. Therefore, I believe that students’ emotions in class are fundamental to the effectiveness of teachers’ feedback. (Qi-IN)</td>
<td>Qi emphasised the influence of negative and positive emotions on students’ willingness to accept CF. Negative emotions have a hindering effect on CF while positive emotions have a facilitating effect. With positive emotions, even stressful students tend to talk more and accept more feedback.</td>
<td>Learner emotion</td>
<td>Manner of CF provision</td>
<td>Learner emotions</td>
</tr>
<tr>
<td>I feel that students’ responses to my CF are different. Students from the Asian cultural circle, such as Japan, Korea or Thailand, tend to nod their heads when hearing my feedback; while students from Europe or America tend to ask more questions. (Li-IN)</td>
<td>Li noticed the discrepancies between students of different cultural groups.</td>
<td>ID (country of origin)</td>
<td>/</td>
<td>Cultural stereotypes</td>
</tr>
<tr>
<td>I think that my way of using CF develops from my teaching practice. My experience increases gradually as I am providing more feedback to students. I think I may also be affected by the way my language teachers did. (Wen-IN)</td>
<td>Wen stated that her CF delivery strategy was shaped by her teaching experience, as well as her learning experience.</td>
<td>Experience</td>
<td>Manner of CF provision</td>
<td>Experience</td>
</tr>
</tbody>
</table>
I do not use the word “wrong” in my feedback. Instead, I will say, “This is not appropriate”, and then suggest a better expression and ask for students’ opinion. I think that my experience of studying in Australia helps me be more respectful to others. I am showing my respect for each answer from the learner, so I tend to use indirect CF strategies. (Min-SR)

Min indicated that her belief in being respectful to students was largely influenced by her learning experience in Australia.

Manner of CF provision
Empathy, experience

If I am teaching a grammatical structure, I will provide more feedback to students. If my students are expressing themselves in paragraphs, I tend not to interrupt them. (Sen-IN)

Sen compared the frequency in providing CF when teaching tasks were different. For her, CF was more intensively used when the teaching task was focused on grammar.

Teaching Focus, error
Manner of CF provision
/

If I have many points to cover in one class, I may not have any time for correction. (Jing-IN)

Jing admitted that she would take class time into consideration.

Class time
Manner of CF provision
/

Sometimes, if a student fails to produce the right answer, I will lower the level of difficulty of the question by adding more information, or I may provide the answer in a question sentence. While using “yes” or “no” to answer my questions, the student may realise that I am giving the right answer. (Yuan-SR)

Yuan explained her way of delivering CF, which included a peer CF session before the right answer being given by the teacher.

Manner of CF provision
Empathy
/

When a student makes an error, I will first remind them by using a different voice tone. If the student fails to do self-correction, I will throw this question to another student by saying, “what do you think?” If the second student still fails to correct, I will provide the right answer. (Yuan-SR)

Wen paid more attention to students’ individual differences rather than cultural similarities. (Wen-IN)

In my class, culture does not make much impact on students’ responses to CF. I believe that their differences as individuals matter more. (Wen-IN)

Note: “IN” is short for “in-depth interview”; “SR” is short for “stimulated-recall interview”.

Table 3 reveals a variety of manners of CF provision, and interprets their underlying reasons. If an episode pointed to how CF was given in interactions, it was coded as “direct”; if it pointed to interpersonal, cultural or affective factors in the context, it was coded as “indirect”; and if it referred to both dimensions, it was coded as direct and indirect. Following this strategy, the “direct” theme was the manner of CF provision, which was justified by error, CF provider, audience, teaching focus, ID, experience and class time; the “indirect” themes included cultural stereotypes, empathy, learner emotions, CF beliefs and experience. In the following section, a discussion will be provided in response to the three research questions, as well as in relation to the nested ecosystem model.

Discussion

Teachers’ perceptions of CF effectiveness

Teachers consistently emphasised their responsibility to make students “notice” their errors instead of correcting them (Qi). They valued the ability of CF to make students aware of their
errors over its immediate contribution to L2 acquisition. Five reasons have been given for this. Firstly, CF is a supplementary means of instruction, as the effect of CF on L2 acquisition is not immediate but may become clearer in the long run (Dan). Secondly, there is a consistent emphasis on learners’ emotional wellness whenever using CF. Therefore, teachers’ hesitation in using CF derives mainly from the fact that their concerns are “affective and practice-oriented in nature” (Sepehrinia & Mehdizadeh, 2016, p. 1). Thirdly, multiple factors in the classroom affect teachers’ expectations of an effective CF. For example, the rules of Chinese four tones are easy to understand but pronouncing them accurately needs practice, and students may also need to overcome the negative influence from their native language (Wen). Therefore, teachers can show more tolerance for tone errors. Fourthly, “foreign language learning is a process of moving from interlanguage to target language”, as a teacher, Yuan, remarked. Such a viewpoint underscores the importance of developing learner autonomy in language learning (Saeb, 2017). Finally, teachers’ expectations of CF effectiveness are dynamic. Sen said that she expected students to be correct after each instance of CF during her first years of teaching; however, in reality, students tended to repeat the same error. Sen therefore changed her CF expectations. In terms of this study, the microsystem involves teachers’ expectation to raise students’ awareness of the error, which contributes directly to CF effectiveness.

Direct and indirect factors affecting CF effectiveness

Direct factors

Qualitative data analysis revealed that the direct factor that could increase or decrease students’ awareness was the manner of CF provision. This choice was very flexible and based on a variety of reasons, including error, CF provider, teaching focus, audience, ID, experience and class time. Each of these had a direct influence on the extent to which students’ awareness could be raised. Given the limited space, discussion will be limited to error, CF provider, and audience and how they affect the manner of CF provision.

Error is an external factor that determines the extent to which a teacher would like to correct. Errors with certain features are more likely to be corrected than others. Firstly, teachers are interested in correcting errors in vocabulary and word choice (Saeb, 2017). In this study, both pronunciation (including tone) errors and grammatical errors received significant attention (Sen). Correcting errors impeding communication has been emphasised in the literature as well (Jean & Simard, 2011; Saeb, 2017). Similar concerns were found in this study: an error that impeded communication would be corrected, while one seen not to influence communication would probably remain uncorrected. In addition to the above two reasons, error commonalities among students, native language influence and teaching focus would also affect a teacher’s decision about whether to deal with an error or not. Common errors were prioritised; for example, Yuan emphasised that common errors from students of the same cultural background should be given extra focus as they are influenced by the learners’ native language. Correcting errors of this type would focus students’ attention on the differences between their native language and the target language. The importance of correcting errors that are within the current teaching focus was also emphasised by Yuan. These errors concern mainly newly learnt knowledge, and at the beginner stage of learning, it is important to stress language accuracy.

Studies on who should be the CF provider from the teachers’ perspective are scant (Li, 2017). Teacher’s guidebooks show a clear preference for making students responsible for correction, such as through self- or peer correction (Ellis, 2013,2017). In this study, some teachers considered themselves as the default CF provider (Dan), while others believed that redirecting an error to a peer was a good strategy because it also served as a chance to test the peer’s knowledge (Yuan). Fu and Nassaji (2016) conducted a study similar to the present one (i.e. same target language and
same instructor background—Chinese) and also found peer-assisted CF (directing the question to another student) useful. However, Mandarin Chinese is not a popular L2 in CF research, which may explain the reason why peer-assisted CF is rarely discussed in the literature.

Audience refers to the person addressed by CF. Though there are doubts about whether it is feasible to provide CF where the students number is large, Ohta (2001) suggested that CF has value not only for the addressee but also to the whole class. CF is an alternative to grammar teaching, which may be more effective than traditional teaching approaches (Li, 2018; Spada, Jessop, Tomita, Suzuki, & Valeo, 2014). All participants supported using CF as a valuable tool for grammar teaching (see for example Dan). They repeatedly stressed the fact that using CF strategies was part of all their pedagogical activities, and therefore the whole class should be included as audience.

In line with existing literature (Roothooft, 2014), teachers’ CF type preferences varied, including combined CF, scaffolded feedback, output-prompt feedback and input-driven feedback, but they had one aspect in common: increasing students’ ability to notice errors. The composition of combined CF can be very flexible. For example, Sen initially used implicit hand gestures or facial gestures to encourage self-correcting a tone error. In cases where these gestures failed to prompt a correction, she provided students with the correct linguistic form. In this example, Sen’s manner of providing CF was largely affected by error type, as she would not use hand gestures to deal with errors other than tone ones.

Where scaffolded feedback is used, the process of giving feedback is regarded as a social cooperation wherein teachers and students work together to solve problems. Scaffolded feedback is useful in facilitating learner uptake; moreover, scaffolding can be used quite flexibly. For example, Yuan mentioned that her original question was open, and that needed more cognitive effort to respond to. When she noticed a learner’s inability to answer it, Yuan phrased it differently and made it into a “yes or no” question, which required less cognitive effort.

Output-prompting and input-driven feedback were the other two CF strategies. The former was more common than the latter, and teachers’ reasons for providing output-prompting feedback were inconsistent with findings in the literature. In the literature, the advantage of output-prompting feedback mainly lies in its ability to prompt the retrieval of learnt knowledge. In this study, participants considered it as a reliable indicator of acquisition (Yuan). Input-driven feedback was used occasionally and it targeted tone errors only: believing that tone errors were more challenging to address, Wen used more positive input to facilitate students’ acquisition. In terms of the nested ecosystem model of this study, CF operation occurs within the mesosystem: it is evident that how to provide CF was not decided randomly but on the basis of many factors.

Indirect factors

Qualitative data results also indicated a broad range of indirect factors spanning the interpersonal, cultural and affective dimensions. Due to space limitations, discussion will be focused on three prominent ones: empathy, cultural stereotypes, and learner emotions.

The facilitating role of empathy on pronunciation has been reported by Rota and Reiterer (2009), and this study provided evidence supporting its role in the rapport between the learner and the teacher. For example, Min said that her learning experience in Australia taught her to treat every answer from students with respect, and therefore she tried to adopt an empathetic perspective when students made an error. Min emphasized that her sensitivity to students’ feelings was shaped by her intercultural awareness.
Since empathy is such a facilitating characteristic in teaching, this begs the question of how teachers can develop it. Empathy is learnable as “it can rise and fall depending on the situation, and we can train ourselves to get better at it” (Krznaric, 2014, p. 34). Based on the findings in the literature and in this study, there are three ways that could be useful to increase one’s empathy: to experience diverse cultures personally if possible; learn more about various cultures; and develop an ability to perceive similarities of different cultures based on similar experiences.

Consistently with the documented stereotyping in English L2 classrooms, this study indicated that cultural stereotyping played an important role in Chinese L2 classrooms as teachers also assumed students’ CF preferences based on their countries of origin. For example, Li said that she preferred to use implicit and indirect CF with students from Asian countries as they were emotionally more vulnerable. On the contrary, some teachers were cautious about stereotyping. For instance, Wen mentioned that though students’ native cultures were a factor to consider, their individual characteristics needed more attention. In a word, stereotyping helps teachers form some basic conceptions about unfamiliar students; however, a comprehensive evaluation of cultural commonalities and individual peculiarities is essential in figuring out an appropriate CF strategy.

To our knowledge, only the mediating role of one negative emotion—foreign language anxiety—to CF has been examined (for example Sheen, 2008). This study, however, showed that positive emotions could provide learners with invaluable support in CF process as well. For example, Qi emphasised that when students were highly interested, their receptiveness to CF was much higher than when they were uninterested in learning. She commented that when experiencing positive emotions, “stressful students tend to talk more and respond actively to CF”. Qi’s comments reflect the “Broaden and Build” theory (Fredrickson, 2001), which claims that certain discrete positive emotions can broaden people’s momentary thought-action repertoires and build students’ enduring personal resources to cope with difficulties.

Empathy, cultural stereotypes, and learner emotions fall within the exosystem, the outer layer of the nested ecosystem model. These cultural and affective factors can have indirect influence on CF effectiveness by affecting the individuals participating in an interactive activity.

The impact of interplay of factors on CF effectiveness

So far, the discussion has focused on the effect of each individual factor on CF effectiveness; however, it also should be pointed out that all these factors co-exist in CF interactions. Therefore, evaluating the interplay of these factors is as important as examining each factor individually. Discussion in this sub-section is thus devoted to addressing RQ3, which is “How does the interplay of factors affect CF effectiveness”.

Empathy in the exosystem plays a decisive role in delivering CF successfully, as it enables students’ demands in CF interactions to be carefully met. Being empathetic means prioritising students’ personal needs, rather than imposing any characteristic on them based on their cultural background. Being empathetic also means paying close attention to students’ emotions: if the class atmosphere is positive, teachers should encourage more self-correction, as positive emotions can support students in facing challenges; while if most students in the classroom show boredom, they are not likely to respond actively to CF (Qi).

The teacher’s mesosystem reveals their various considerations when choosing a way to provide CF. Errors are one core affecting factor. The influence of errors on the microsystem depends on some of their features, including error severity, error types and commonality. Serious errors would
quickly gain significant attention from both students and teachers. CF type is closely connected with all other factors involved in a CF interaction. Teachers’ goal of raising students’ awareness can be more easily achieved by using more explicit CF types, but this may hurt a learner’s feelings. Therefore, as a teacher, only by balancing the efforts to achieve CF effectiveness, and consideration for learners’ feelings can a satisfactory outcome be achieved. CF providers have varied effects as well. Teachers are regarded as the language authority, so CF provided by them is more salient. Peers, on the other hand, may take longer to be acknowledged. Delivery time is linked to target audience: immediate CF is provided in class to deal with serious errors, and it targets a wide range of students; delayed CF aims only at the student who made the error, and is usually not considered relevant to other students.

In short, all factors involved in CF interactions influence each other. This constitutes the dynamic nature of the nested ecosystem: not only are factors in each subsystem linked to each other, connections also exist across different microsystems. Thus, the entire model exhibits a consistently dynamic status. Acknowledging the widespread connectedness of these factors and understanding how they are linked to each other will facilitate teachers in providing their own CF in authentic classrooms.

Conclusions and limitations

The present study has examined how CF is implemented by teachers of Chinese as an L2 in the context of mainland China by applying the nested ecosystem model, which emphasizes the environment where a CF interaction takes place. Though the idea of using the nested ecosystem model in SLA is not new (Gkonou, 2017), what is new is the adoption of this model to investigate an interactive activity between two individuals. Findings of this study reveal that teachers perceive CF as effective when it raises students’ awareness of the error, which occurs in the microsystem. The manner of CF provision—the direct factor—occurs in the mesosystem, and is based on error, CF provider, teaching focus, audience, ID, experience and class time. The exosystem in the nested ecosystem model refers to indirect factors occurring in the language classroom such as empathy, cultural stereotypes, learner emotions and how they interact. While all these three subsystems mediate teachers’ perceptions of effective CF, it is also worth noting that they are also in constant interplay with each other. All these findings indicate that Chinese L2 teachers’ perceptions of CF effectiveness have many similarities with those of teachers in other contexts. They all tend to appreciate the importance of students’ noticing CF, admit the relative effectiveness of combined and scaffolding CF, and the influence of CF type, error, delivery time and CF provider on the manner of CF provision. More importantly, the ecological approach expands our understanding of how CF works by including the role of audience, empathy, cultural stereotypes and positive emotions in the CF process, as well as the interplay among all factors. These findings highlight the cultural and affective influences on CF effectiveness and point to the complex nature of the CF process, both of which deserve more research attention in the future.

Pedagogically speaking, the findings of this study provide a basis for teachers to reflect on, or perhaps refine, their own personal teaching philosophy and practice. In addition to the pedagogical implications mentioned in the literature, this study suggests that teachers should attach importance to cultural and affective dimensions in CF interactions, such as prompting empathy, avoiding stereotyping students, and paying attention to positive learner emotions in the classroom.

In spite of these findings, two limitations of this study need to be acknowledged. First, conducting research with a nested ecosystems approach “brings about a separation of explanation and predication” (Larsen-Freeman & Cameron, 2008, p. 32). In other words, this study aims at interpreting how CF interactions work, but it cannot predict their outcome. Yet, as it is important
to increase teachers’ awareness of how CF is provided in classrooms (Ur, 1996), interpreting how CF works is as important as predicting its outcome. Second, data of this study are based on one university in eastern China; ideally, teacher participants should be selected randomly from several universities in different areas.

References


**Appendix I**

**Stimulated recall interview question sample (teacher)**

<table>
<thead>
<tr>
<th>Episode 3</th>
<th>star from 04:45 minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>教师：吴英</td>
<td></td>
</tr>
<tr>
<td>讲课类型：…</td>
<td></td>
</tr>
<tr>
<td>课堂环境：混合国籍</td>
<td>美国，韩国，乌克兰，日本</td>
</tr>
<tr>
<td>诱导词：</td>
<td>学生，文，美国，教师，同学</td>
</tr>
<tr>
<td>你的汽车</td>
<td>呢，什么汽车？</td>
</tr>
<tr>
<td>言语：</td>
<td>错误输入，错误类型</td>
</tr>
<tr>
<td>询问学生购买什么价钱贵但是质量不好的产品</td>
<td>我觉得语法</td>
</tr>
<tr>
<td>这个问题</td>
<td>很多地</td>
</tr>
<tr>
<td>但是，我没有做</td>
<td>没有做</td>
</tr>
<tr>
<td>我不要谈论名字，因为不是</td>
<td>我不要谈论名字，因为不是</td>
</tr>
<tr>
<td>日本的车，我喜欢</td>
<td>日本的车，我喜欢</td>
</tr>
<tr>
<td>话题</td>
<td>话题</td>
</tr>
<tr>
<td>重复</td>
<td>重复</td>
</tr>
</tbody>
</table>
Appendix II

Guiding questions for in-depth interview (teacher)

1. What is your understanding of CF?
   您是如何理解纠错反馈的？
2. What have you learnt about CF in formal education? If not, what kind of knowledge/experience do you rely on when correcting errors?
   您有没有学习过有关纠错反馈的知识？你从何处获得了这些知识？
3. Can you tell me your most impressive experience in dealing with students’ errors in class?
   能否描述下让你印象最深的一次课堂纠错反馈经历？
4. What do you think is an effective CF?
   您认为怎样的纠错反馈才算有效？
5. What features do you think an effective CF should contain?
   影响纠错反馈应的因素有哪些？
6. Do you think (for example, CF type, delivery time, error type, teaching focus) will affect CF effectiveness (in case the participant failed to answer question 5)?
   您觉得（譬如纠错类型，纠错时间，错误类型，教学重点等等）会影响纠错反馈效果吗（如果回答不出第五题，给出提示）？
7. Can you describe how does (for example, CF type) affect CF effectiveness (allow the participant to explain all identified factors in question 5)?
   你能不能描述一下为什么（例如，纠错类型）会影响纠错效果的（让被访问者一一描述题目5中的影响因素）
8. Did you experience any difficulty in correcting students’ errors?
   您在给学生纠错时遇到过什么困难吗？
9. Have you got any suggestions on improving CF effectiveness?
   您对提高纠错效果有何好建议吗？

Acknowledgement

This project was supported by China Scholarship Council (CSC NO. 2016082412).

Dr Wen Chen (Corresponding author) teaches in the International College at Jiangsu Normal University, Jiangsu, China. Her research interests include corrective feedback in language classrooms and the role of positive psychology in learning a second language.
Dr Guo-qiang Liu teaches in the School of Humanities and Social Sciences at Deakin University in Australia. He has been working in the area of applied linguistics and language education, and his interests include second language acquisition, sociolinguistic issues, identity in language change, local identity in dialect maintenance, and language policy and planning in national identity.