Self-Repair Devices in Classroom Monologue Discourse[*]

Chihsia Tang
National Science Council

Mandarin Chinese repair study was initiated in 1995. Researchers of earlier studies primarily focused their attention on conversational utterances. Monologue speech productions were not particularly studied. Also, in previous investigations, only the syntactic operations imposed on speaker's erroneous utterances were analyzed. The incentive of each repair initiation, however, was not properly discussed. Thus, the repairs incurred by different erroneous productions remained indistinguishable and different problems were mistakenly categorized as the same type of error. In this investigation, a different approach is adopted to analyze Mandarin Chinese erroneous productions based on the data collected from academic monologue discourse. In the present attempt, the problem and the repair mechanism of each imperfect production are analyzed. Gricean Maxims are employed to identify the reparandums and with regard to repair strategy, the syntactic operation and the pragmatic function of each repair device are examined. Finally, in the data of this monologue corpus, it is also observed that the repairable and the repaired constituent of the same utterance are structurally interrelated to a certain extent, thus arguing against the misconception that speech blunders are unsystematic productions.

Keywords: discourse analysis, self-repair, classroom monologue narrative, Mandarin-English bilingual

1. Introduction

People covertly edit and plan their utterance before the intended messages are realized phonetically, during which unanticipated communication can be intercepted (cf. Baars et al. 1975). Speakers are also in control of a monitoring device during the speech production process (cf. Levelt 1983, 1989, Mattson and Baars 1992, Postma 2000). As people perceive languages that do not correspond to their communicative intent, their speech repair apparatus may be activated.[1] People's "self-repairs imply the existence of specialized control devices or 'monitors' which verify the correctness of ongoing motor activity, and response output" (Postma 2000:98). Simply put, self-repair is a "quality control" (Hieke 1981:148) device that intercepts pre-articulatory, and post-articulatory deviations made by speakers inadvertently (cf. Schegloff et al. 1977, Levelt 1983, Chang 1998, Zhang 1998). In the earlier studies of Mandarin Chinese speech repair, the researchers' attention was placed on the erroneous productions of interactive communications (cf. Tao 1995, Zhang 1998,

[1] Speakers do not repair every error in their speech. If the deviation does not destroy the speaker's communicative intent or is for word-play, it may remain uncorrected. Also, there may be some mistakes that need to be corrected but are unnoticed or fail to be corrected successfully (cf., Schegloff et al. 1977, Nooteboom 1980, Nakatani and Hirschberg 1994).

Tseng 2006). The repair activity in monologue discourse was not particularly examined. Yet, speakers in monologue discourse are the ones who have to pay close heed to the wellness of their speech production and revamp their imperfect utterance keenly as a consequence of the rare repair initiations done by their addressees[2] and their responsibility for listeners' understanding of the talk. That addressees are less active in identifying and/or correcting errors for their speakers in monologue discourse can be attributed to the hidden face-threatening effect of error repair per se. If the addressee in the one-speaker situation directly points out the mistake made by their speaker at the presence of many other listeners, the addresser's positive face can be damaged at least to a certain extent (cf. Brown and Levinson 1987).[3] In order not to devastate their addresser's face in public,[4] listeners in monologue discourse tend to remain unvoiced even if they notice the slip-ups.[5] Although the overwhelming majority of speech repair in the one-speaker situation is initiated and corrected by speakers themselves, none of the previous research set out to examine repairs in monologue discourse. This investigation, therefore, aims to look into the details of people's speech deviations based on the data from Mandarin Chinese academic monologue narratives.

2. Previous studies

This section begins with an introduction of the speech repair study and its development. Next, the most frequently occurring repair structure is illustrated and previous Chinese repair studies are reviewed.

2.1 Speech error

The study of speech repair dates back to more than a quarter of century ago when Jefferson (1974) initiated the research of error correction. In line with Jefferson's suggestion, correction is a repair strategy with which people wipe out their deficient

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[2] While speaking, either in monologue or in dialogue, our speech blunders can be noticed and pointed out by our interlocutors rather than ourselves, and this type of repair is called other-initiated repair by Schegloff et al. (1977). Schegloff et al. suggested four types of repairs in their repair investigation, including self-initiated self-repaired, other-initiated self-repaired, self-initiated other-repaired, and other-initiated other-repaired.

[3] Positive face refers to people's desire to be appreciated, admired, or ratified at least by some others (cf. Brown and Levinson 1987).

[4] People's face or *mianzi* in Mandarin Chinese is highly valued especially in the Chinese community (cf. Huang 1987).

[5] We cannot deny the possibility that some listeners may interrupt their speaker and initiate speech repair, or question the correctness of the speech in the midst of an ongoing talk if the speaker's error has a great impact on the listeners' understanding of the up-coming discussion.

speech by replacing their erroneous utterances with the correct linguistic forms. The term *repair* is later introduced in the study of Schegloff et al. in 1977 where the error for repair is no longer exclusively contingent upon grammatically unacceptable constituents. Following the insight of Schegloff et al. (1977), and Fox et al. (1996), Rieger (2003:48) defines repair as "error correction, the search for a word, and the use of hesitation pauses, lexical, quasi-lexical, or non-lexical pause fillers, immediate lexical changes, false starts, and instantaneous repetitions."

The characterization of speech error, however, deviates in O'Connell and Kowal's discussion of fillers in 2005. In their study, O'Connell and Kowal do not regard disfluent productions[6] as speech errors that call for people's repair. Following Chafe's (1980) insight, O'Connell and Kowal argue that "the course of spoken language use can never be continuous, never literally fluent" (2005:557). Namely, disfluent speeches in the spoken discourse do not really mess up people's goals of communication; instead, "pauses, false starts, afterthoughts, and repetitions…are steps on the way to achieve it" (Chafe 1980:170). Thanks to mid-utterance speech disfluencies, listeners have the chance to digest, and capture their addressers' communicative intent even better. Therefore, there is no ground to claim that disfluent utterances are unwelcome in the spontaneous natural productions and the need to repair speech disfluencies vanishes accordingly.
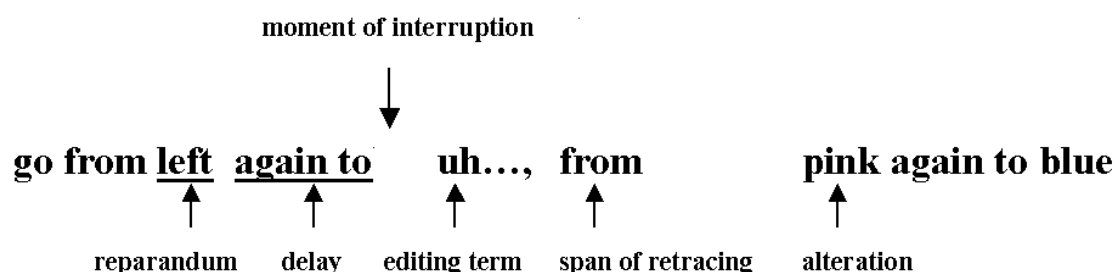
2.2 Repair structure

The most frequent repair pattern is composed of three phases as the structure suggested by Levelt in 1983. The first phase of repair is the original utterance, which starts from the boundary of the last preceding clause to the interruption before the editing term. In the *original utterance*, reparandum[7] can be found, which is the constituent the speaker attempts to repair. In Figure 1, the original utterance is *from left again to* where *left* is the reparandum. In this example, the speech is not interrupted until the preposition is realized phonetically. The phase after interruption, and before the repair phase is known as *editing*, which sometimes can be so brief that may not be perceived (cf. Zhang 1998). While speakers are editing their words, various techniques may be employed, such as quasi-lexical fillers, lexical fillers, cut-offs, non-lexical speech perturbations, sound stretches, and instant repetitions (cf. Levelt 1983, Zhang 1998, Rieger 2003, Erard 2004). In Levelt's example, the filler *uh* is the editing device whose discourse function is to postpone later productions in the

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[6] Disfluent productions result from the mid-utterance pauses, lexical, quasi-lexical, and non-lexical fillers as well as instant repetitions.
[7] It is also known as repairable or trouble spot.

mid-utterance of an ongoing speech. The last phase of the repair procedure is the *repair* where the alteration[8] for substituting the reparandum constituent can be found. *Pink* in the repair phase is the alteration that replaces the reparandum in the original utterance. In the present research, the reparandum, and the alteration are examined.

moment of interruption

↓

go from <u>left</u> <u>again to</u>   uh…, from   pink again to blue

↑   ↑   ↑   ↑   ↑

reparandum   delay   editing term   span of retracing   alteration

Figure 1. Levelt's (1983:45) repair structure

2.3 Earlier Chinese repair studies

Since 1995, Chinese linguists have worked on the issue of speech repair either with the Beijing Mandarin Chinese conversations data or the Taiwan Mandarin Chinese conversation data (cf. Chui 1996, Tao 1995, Zhang 1998). These studies chiefly investigated the syntactic operations imposed on the original utterances of the repairs. Repair categories in these Chinese investigations are abandonment, addition, elaboration, paraphrasing, reordering, replacement, restructuring, and substantialization as shown in Table 1.[9]

Table 1. Chinese repair categories in previous studies

Repair type	Operating mechanism
abandonment	to abort the old constituent completely, and resume the speech with a new construction
addition	to insert a new constituent into the original utterance
elaboration	to provide detailed information of the original utterance
paraphrasing	to interpret the old message in another way
reordering	to swap the position of two constituents in the original utterance
repetition	to repeat constituent(s) of the already-uttered speeches
replacement	to substitute one word in the original utterance for another
restructuring	to reorganize the syntactic pattern of the already-uttered speeches

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[8] In addition to alteration, the modified speech is sometimes called repaired segment or repair proper.
[9] In literature, some repair mechanisms are given different titles but their syntactic operations are the same as the ones in Table 1. For those categories with an identical mechanism, only one is selected for illustration to avoid reduplication problems.

substantialization	to replace the deictic expression with referentially-clear constituent

These classifications may account for the syntactic variations between the repairables, and the repaired constituents in the corpora of their studies. Still, there are certain deficiencies. First, in earlier studies, only the syntactic operations imposed on the reparandums were targeted, but the problem of each repairable was not analyzed, which led to the problem that errors with dissimilar characteristics are mistakenly placed in the same category. In addition, the pragmatic function of the repair device is blurred.

(1) danshi zheyige   de   chengben shi ***hen*** da   de(1-second pause)
    BUT   THIS   GEN   cost   COP VERY huge   NOM
    feichang   da   de…
    extraordinarily   huge   NOM
    'But the cost of this is ***very*** high, **extraordinarily** high….'

(2) zhe   zhe   ge   ye   dengyu   shi   yi   ge   ***notify*** **notification** use…
    THIS THIS CL   also equal.TO   COP   one CL
    'This this (one) is also equal to a ***notify*** **notification** use...'

Take excerpt (1) and (2) from the present corpus to illustrate.[10] Example (1), and (2) can be replacement repair based on the definition given in Table 1 where *hen* 'very' is replaced by *feichang* 'extraordinarily', and *notify* is replaced by *notification*. However, the two speakers' motivations to initiate these repairs are not analogous. The repair in the first example is triggered by the inappropriate interpretation of the modifier; the repairable and the repaired segment are semantically different but syntactically identical. However, the repair in the second example is caused by a grammatical error where the verb *notify* is misapplied in the nominal compound. The interpretation of the repairable *notify* and the repaired constituent *notification* are almost undistinguishable but they are with different syntactic categories; the former is a verb, and the latter is a noun. Obviously, the incentives for initiating these two repairs are not the same, and their repair mechanisms should be distinguished by virtue of the divergent fundamental characteristics of the deviations.

Second, repetition, and paraphrasing should not be repair device. The function of repetition in the spoken discourse is similar to fillers', such as *uh* in English, *eto* in Japanese, and *nage* in Chinese (cf. Erard 2004, Rieger 2003). When people are unable

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[10] In the examples of the present study, repairable constituents are in italics and the alterations are in brackets. The full terms of the abbreviations in the gloss are available in the appendix.

to think of the appropriate words to express their ideas in the middle of their speech as a result of their sudden mental breakdown, repetitions enable addressers to create a sense of speech continuity, and delay their later productions. If its function is to put off the subsequent utterances, repetition should not be repair device; instead it is one of the editing techniques that addressers employ while arranging ideas in the middle of an ongoing talk. The discourse function of paraphrasing is also a key factor that distinguishes it from other repair devices. Speech repairs are for improving the semantic transparency of one's utterance, for improving grammaticality of the speech or for correcting interpretation of the communication (cf. Chang 1998, Chui 1996, Tao 1995, Zhang 1998). Nevertheless, after an utterance is paraphrased, none of the objectives of speech repair is attained. To paraphrase his utterance, the speaker merely selects different lemmas, and employs a different sentence structure to express a concept the same as the one in his old message. If paraphrasing does not improve the intelligibility or grammaticality of the communication, it should not be used as a repair device.

To conclude, if the trigger of each repair is not found, we cannot correctly identify the discourse function of each repair mechanism. Moreover, the correlation between the reparandum and the repair mechanism cannot be obtained.

3. Method

In this section, foremost, the source of the data in the present corpus, and the background information of the participants are provided. Next, the paradigm used to identify the repaired speeches is introduced.

3.1 Data and background of the participants

The data of the present research were collected from classroom lectures and presentations at a university in northern Taiwan from March to April, 2008. Classroom monologue narratives were targeted. The data for analysis were transcribed from a one-hour recording of the classroom speech. During data collection, participants did notice the recording activity but they had not been informed the execution of the research. In total, there are thirteen subjects participating in this research; and all of them are Mandarin Chinese native speakers. Because of their ethnic and educational backgrounds, they also speak English, and Hakka or Taiwanese; however, these languages are only used for clarifying certain points or for illustrating examples in their papers. In short, Mandarin Chinese is the language used most commonly by the participants since it is their mother tongue with which they can express their intended

concepts with the least effort, and is the medium of communication used most pervasively in the academic discourse in Taiwan.

3.2 Analysis

For obtaining the desirable outcome, discourse analytical approach is adopted in this investigation. Discourse analysis, as often defined, does not only study the organizations beyond phonemes, morphemes, phrases, or sentences, but other non-linguistic cues are also highly valued. Discourse markers, non-lexical perturbations, pauses, and many other non-linguistic elements can be of great help in understanding the meanings, pragmatic functions, and syntactic structures of our language. In this investigation, both linguistic constituents, and other non-linguistic elements in the audio recordings are taken into consideration.

In the present research, in order to identify the incentive of each repair initiation, and correctly analyze the function of their corresponding repair mechanism, the Gricean Maxims derived from the Cooperative Principle are adopted to identify, and categorize speech repairables of the collected data. The Gricean Maxims include maxim of quality, quantity, manner, and relevance. The maxim of quality suggests people not to say something false or for which they lack supports. With respect to the maxim of quantity, speaker should make their utterance as informative as their addressees need. Next, to meet the requirement of the maxim of manner, people should dodge ambiguous expressions, and prevent the occurrence of unorganized messages. In respect of the maxim of relevance, people should avoid illegitimate topic shift during communication (cf. Grice 1975). Even though the Gricean Maxims were first introduced to portray how effective communications can be achieved in the interactive situation, speakers in the monologue narrative also have the responsibility to deliver their messages following the guidelines so as to develop a successful and effective communication. Accordingly, when the utterance deviates from any of the Maxims, narrators experience the need to implement speech repair. After speech problems are identified, the syntactic operations, and pragmatic functions imposed on different types of repairables in the present corpus are analyzed. At the end of the study, the frequency of different errors in the academic monologue discourse and the repair strategies for different deviations are made clear.

4. Speech repairs and repair devices

Utterances deviating from the Gricean Maxims, and the repair mechanisms for repairing different speech blunders of the present research are illustrated in the

following subsections.

4.1 Speech with maxim of quality violation

Ungrammatical productions are speech quality deviations since the speaker's production does not truthfully display the structural representation of his intended speech. In natural spontaneous spoken discourse, it is inevitable that people make grammatical errors while speaking foreign languages and even when people are using their native language(s). Occasional slips of the tongue occur since people's linguistic performance does not always reflect their linguistic competence (cf. Chomsky 1965, Bergmann et al. 2007). When an ungrammatical production occurs, the speaker perceives the need to initiate repair since ungrammatical constituents can impede the listeners' understanding of the speech. Correction is the repair mechanism speakers use to adjust the phonetic, morphemic, or syntactic construct of their erroneous production. When correction is implemented, the grammaticality of the original utterance is repaired but the interpretation is not targeted for a change. Example (3), (4), (5), and (6) are examples each with a maxim of quality violation.

(3) example seventeen the author /ɔsərt/ /əsərt/…

There is a phonemic error in example (3); the intended word *asserts* is mispronounced. The speaker, thus, replaces the back mid-vowel with the schwa so as to obtain the intended interpretation. Other segments in the reparandum remain intact after the repair is done.

(4) li   yingzhe   jiaoshou   fuze   de   taiguo   ***man2***，
    Li   Yinzhe   professor   responsible.FOR   NOM   Thailand   Bang-
    man4gu3…
    Bangkok
    '***Bang***, **Bang**kok, Thailand of which Professor Yingzhe Li is in charge…'[11]

Excerpt (4) is with a tonal error since the speaker incorrectly assigns the tone of the first syllable in the word *mangu* 'Bangkok'. The first syllable of *mangu* 'Bangkok' should be with a falling tone but it is mispronounced as rising tone. Tone is one of the distinctive features in Mandarin Chinese (cf. Li and Thompson 1981); therefore, it is obligatory to correct the mistake if the word *man4gu3* 'Bangkok' is what the speaker

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[11] The problem of the speech lies in the tonal quality of the constituent *mangu* 'Bangkok'. However, English is not a tonal language. The reparandum and alteration cannot be distinguished inside the translation.

intends to convey.

(5) na   zhe   zhe   ge   ye   dengyu   shi   yi   ge   *notify*
    WELL   THIS   THIS   CL   ALSO   equal.TO   COP   one   CL
    notification use…
    'Well, this this one is also equal to a *notify* **notification** use….'

    A morphemic error occurs in example (5). The intended nominal compound should be composed of two nominal constituents; however the speaker mis-applies a verb to be the first element of the noun phrase. The verb *notify* is then replaced by *notification* for a correct construction. The addresser of this example is a Chinese native speaker; it is not surprising that he makes some ungrammatical mistakes while speaking English, since English is always a foreign language to him no matter how high his English proficiency is. However, in this excerpt, it is noticed that the error pops up as soon as the speaker codeswitches to English from Mandarin Chinese. We, therefore, cannot deny the possibility that it is the initiation of codeswitching that contributes to this slip-up instead of the speaker's English proficiency and/or his inattentiveness at that moment. To put it differently, this deviation may be incurred by the speaker's sudden change of the linguistic code. Yet, the question of whether codeswitching reinforces the likelihood of error occurrence is not of immediate concern for the present study and will be pursued in future research.

(6) In what ways *is a*, **is tense a** deictic category…

    Example (6) is caused by a syntactic error. This speaker attempts to throw a question to his addressees, but the subject of the sentence is skipped in the original utterance, which, however, does not correspond to the conventional structure of English. For the English finite clause to be grammatical, its subject slot should be filled with an overt nominal constituent to legitimize the formation of the interrogative construction. The nominal constituent *tense* is thus inserted after the copular.

    In addition to the above ungrammatical constructions, repair can also be found in utterances without grammatical error, since the maxim of quality is also violated if the interpretation of the speech does not truthfully correspond to the speakers' communicative intent. The reparandum and the alteration constituent in the repair resulting from unintended interpretation have different semantic constructs but are usually in the same syntactic category and share a similar, or even common, syntactic configuration. To repair this type of mistake, replacement is the device applied, with which the speaker adjusts the interpretation of the speech but keeps the syntactic

structure of the original utterance intact.

(7) zhe pian baogao zhuyao shi yao ***bi*** ， oh(prolonged) shi
  THIS CL report mainly COP want compare FIL COP
  yao cha zai shalaoyue shiwucheng de huaren ta
  want investigate AT Sarawak Sibu GEN Chinese 3.SG
  de yuyan nengli ji yuyan shiyong de diaocha…
  GEN language ability AND language use ASSOC investigate
  'This report is mainly to ***compare***, to investigate Chinese people's language ability, and language use in Sarawak, Sibu…'

In example (7), the speaker suspends his speech after *bi* 'compare' since the verb needs to be corrected in consequence of its unanticipated interpretation. *Bi* 'compare' is, later, replaced by *cha* 'investigate'.

(8) you shoushizhe ziji pinggu ziji zai sheme ***yuyan*** hui
  BY participant self evaluate self AT WHAT language WILL
  yong ，zai sheme changhe hui yong sheme yuyan gen
  use AT WHAT occasion WILL use WHAT language WITH
  duifang jianghua…
  others talk
  'Let participants do the self-assessment test, (let them) check in which ***language*** they will, in which occasion they will use which language to communicate with others…'

Misplaced constituent in the utterance, which results in misinterpretation of the speech, also contributes to the maxim of quality deviation for the meaning of a Chinese noun phrase is determined by its location in the sentence in addition to its semantic construct (cf. Cruse 1986).[12] To attain the communicative intent, the speaker applies restructuring to reposition the mis-placed word in his utterance. In example (8), the speaker accidentally utters the word for the subsequent production in the preceding part of the same utterance. To repair the error, the syntactic position of *changhe* 'occasion' and *yuyan* 'language' are swapped.

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[12] The following two sentences have the same composing elements, including a first person singular pronoun, a second person singular pronoun and a verb. *Wo* 'I' in example (i) is the agent and *ni* 'you' is the patient; however, in example (ii), *wo* 'I' is the patient and *ni* 'you' is the agent. The different semantic roles of the same pronouns in these examples are attributed to their different positions in the sentences.

(i) wo da le ni
  1.SG hit PFV 2.SG
  'I hit you.'

(ii) ni da le wo
  2.SG hit PFV 1.SG
  'You hit me.'

In a nutshell, utterances violating the maxim of quality include languages with ungrammatical construction, interpretations not corresponding to the speaker's communicative intent, and constructions with misplaced lexemes. Because of the structural unconventionality of the troubled source, it is not difficult to identify speech blunders caused by ungrammatical languages. To spot reparandums with unintended interpretation, however, requires a bit more attention, since there is no audible error on the surface representation of the original utterance. We cannot know the speaker's slip-up until the repair is initiated, since the utterance before the speaker's self-interruption is not structurally or semantically awkward. As for the repair device, even though these are with the maxim of quality deviation, they are repaired with different mechanisms because of the dissimilar characteristics of the trouble spots. The speech with ungrammatical usage is repaired by correction, speech with unintended interpretation is repaired by replacement and speech with misplaced constituent is repaired by restructuring.

4.2 Speech with maxim of quantity violation

Speakers not only correct their speech when erroneous constructions occur but they also initiate repair if their speech is not comprehensible, i.e., the information of the communication is not adequate. Repair for such deficiency is made to increase listener's understanding of the addresser's communication. Similar to the repair triggered by unintended interpretation, maxim of quantity violation can only be inferred from the addresser's repair because of the error-free manifestation of the insufficient production. Nevertheless, there is no fixed criterion by which we can evaluate the adequacy of one's communication. The addresser's use of words, the listeners' backgrounds, their familiarity with the discussed issue, and many other factors all contribute to the speaker's verdict on his speech adequacy. Therefore, we can only rely on the speaker's self-repair to know the adequacy of his contribution.

The following examples illustrate how narrators repair their language for a clearer manifestation of their communicative intent. First, the repair mechanism of addition may be employed to improve the intelligibility of the speech with which the speaker inserts an extra constituent into the original utterance as shown in example (9). The addresser of this instance was discussing an issue over language. Right after he uttered the term *official language*, the modifier *working* was added, and the complete noun phrase turned out to be *official working languages*. The modifier narrowed down the interpretation of the language in discussion and specified the speaker's communicative intent.

(9) xiang   lianheguo   yiyangde，jiu   ni   you   wu   ge
    like   United.Nations   THE.same namely 2.SG have five   CL
    official languages，working languages…
    'Like the United Nations; namely, you have five **official language**s, **working languages**…'

      Unclear speeches can also be attributed to the speaker's use of pronouns or acronyms, which can result in imprecise or incorrect interpretation, and ultimately lead to misunderstanding of the entire speech. Therefore, pronouns and acronyms are repaired by the speakers to avoid listeners' misinterpretation of the communications. Specification is the strategy speakers apply to replace the constituents with insufficient information with referentially clear expressions.

(10) budan   jiao   zhe   ge yuyan   ， erqie shiyong zhe   ge
     NOT.ONLY teach   THIS   CL language   also   use   THIS   CL
     yuyan   zuo   tamen de   ah(prolonged) *MOI*，jiushishuo
     language   DO   3.PL   GEN   FIL   namely
     medium of instruction…
     'Not only do they teach this language, but they also use this language as their *MOI*; namely, **medium of instruction**…'

(11) *ta*   keneng hui，   xiangtong   yi   ge   verb   keneng
     3.SG   maybe   WILL   same   one   CL   maybe
     hui   you   butong de   lijie…
     WILL   have   different NOM   understanding
     'It is possible that *it*, **the same verb** may have different interpretations…'

      The speaker in example (10) was discussing a language, which is not only taught but is also used as a teaching medium. The acronym MOI was introduced to explain the function of the language in discussion. For clearer interpretation and to avoid any misunderstandings, the presenter provided the full name of the acronym after the term MOI had been uttered. This repair was for the addressees to have a better understanding of the jargon and, in turn, the whole speech. In example (11), the speaker interrupted himself after the auxiliary *hui* 'will' had been uttered even though no erroneous constituent occurred in the utterance. The speaker's self-interruption was for substituting the constituent with full reference for the third person singular pronoun *ta* 'it' in the preceding discourse. *Ta* in Mandarin Chinese may refer to the animate or inanimate object. In order to identify its referent, specification was employed and the third singular pronoun was substituted by the noun phrase *xiangtong yi ge verb* 'the same verb'.

    In academic discourse, speakers, in most cases, manage to deliver their ideas as

much as they can since the speaking activity in the academic discourse is with an educational purpose. If the delivered message is not as informative as it needs to be, the speech giver tends to provide further explanations to elaborate his point for the addressees to acquire a better understanding of the talk. Elaboration as a repair mechanism adds explanations to clarify an already given proposition in an attempt to explicate the concept discussed. In example (12), the narrator first claimed that the performative hypothesis was *zhanbuzhujiao* 'indefensible', yet the expression *zhanbuzhujiao* was deemed obscure. Further explanation was instantaneously offered to make clear of the concerned concept.

(12) name performative hypothesis ne   zai   xiamian   zhe   ge(prolonged)
    PRT   PRT   AT   below   THIS CL

    zhe   ge   fangmian   ne   dou *zhanbuzhujiao*，   mei
    THIS   CL   aspect   PRT all   not.have.a.leg.to.stand.on   NEG

    banfa   wanquan   ah(prolonged) hold truth …
    way   completely   FIL

    '…Then, the performative hypothesis, in this this aspect, is not *defensible*, unable to hold truth completely …'

Providing examples that demonstrate the issue under discussion is another strategy that speakers use to make clear of their point if any concept in their discussion is too abstract to grasp. Such speech repairing mechanism is called exemplification. In example (13), the speaker claimed that there were not so many academic or technological lexemes or lexemes for newly invented items in the Hakka language. For a better illustration of this assertion, the speaker proposed two examples, i.e., *hanbao* 'burger' and *naixi* 'milkshake' to exemplify the absence of the lexemes in Hakka.

(13) *na*   *youyu*   *nage*   *kejiahua*   *zhong*   *bijiao*   *queshao* *yixie*
    PRT   due.to   FIL   Hakka   inside   relatively lack   SOME

    bijiao   *xueshuxing*   *ah*， *huo* *kejixing*   *gainian*， *huoshi*
    relatively academic   FIL   OR   technological concept   OR

    bijiao   *xinxing*   *shiwu*   *de*   *cihui*   ，   xiangshi
    relatively   newly.risen thing   ASSOC   vocabulary   LIKE

    hanbao   naixi …
    burger   milkshake

    'Well, because there are not so many academic or technological lexemes or lexemes for newly invented items in Hakka, such as burger, (and) milkshake…'

Narrators in the classroom monologue discourse have to stay on the same speech floor individually for a long time; it is not uncommon that they intermittently suffer from mental dysfunctions in the mid-utterance as a result of the heavy workload of their cerebra. As mental deviation strikes, the speaker cannot but withdraw himself from speaking, which then results in the maxim of quantity deviation in consequence of the incompleteness of the speech. Fragmentary productions are not semantically or grammatically erroneous, yet the quantity of the speech is surely insufficient and listeners cannot attain a full picture of the communication. Rewording is the mechanism to repair the utterance that the speaker is unable to complete, with which the narrator introduces a new constituent to replace the old message in the original utterance. The speaker in example (14) managed to guide his addressees to the next sub-section of his talk. To express the order of the sub-topic, a number phrase was used, yet the speaker's mental processing broke down unexpectedly. Since the speaker could not think of the correct order of the concerned section, his speech was aborted half-way. To mitigate such problem, the order phrase was abandoned, and was replaced by a new expression. The repair strategy of rewording helps the speaker to stay away from potential mistakes, and keeps the speech moving forward.[13]

(14) *di* ，   xiamian   yi   jie   do performatives always
     ORDINAL.MARKER   next   one   section
     perform actions…
     '*Number*…, next section, do performatives always perform actions…'

To develop a successful communication in line with Grice's Cooperative Principle, we cannot avoid the speculation about satisfying both the maxim of quantity and manner. Following Grice's proposal, to comply with the maxim of quantity, people have to make their communication as informative as it requires; on the other hand, they have to keep their utterance precise and orderly so as to satisfy the maxim of manner. However, it is unlikely to have a perfect communication and to abide by every requirement of each maxim to the same degree in one discourse. From the above repairs for better informativeness of the speech, we can argue that the maxim of quantity overrides the maxim of manner at least in the academic discourse, since the speech is for an educational purpose. In short, the hierarchical ranking of the maxims may vary in

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[13] As mental lapses strike, speakers, of course, can recall their intended message instead of abandoning the half-completed utterance; however, if so, they cannot but keep their listeners waiting for a few seconds or even minutes. From the speakers' initiation of a new expression in example (14), we can learn that maintaining the speech flow continuous in the classroom monologue discourse should be more important than keeping a communication complete.

different discourses and the ranking is determined by the speaker, listener, and the context.

4.3 Speech with maxim of manner violation

People's utterance is not only expected to be grammatical, complete, and informative, but the arrangement of message chunks is also important for successful communication. Speakers have the responsibility to keep their speech well-structured so as to facilitate their listeners' comprehension of the talk. If the information in a communication is not properly arranged, the utterance may be repaired by the speaker with the device of reordering, with which the addresser adjusts the sequence of the messages in his utterance but the content of the talk remains intact.[14] Similar to speeches with insufficient information, speech manner deviation is also non-erroneous production; namely, the imperfection of the information arrangement is hard to be perceived unless the repair is initiated. The following example demonstrates how speaker repairs his speech for a better arrangement of his intended communication.

The addresser in excerpt (15) was discussing the issue of data transcription. Nevertheless, the speech was cut off in the mid-utterance, and a parenthetical remark was inserted right after the interruption. The addresser suspended his speech because he found it necessary to make clear of the common situation of data transcription before elaborating on the difficulty that people seldom encounter. Clearly, the sequence of the information in this speech was adjusted for a better representation of the addresser's communication but the content was unchanged.

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[14] Both Tseng (2006) and the present research investigate speech errors based on Levelt's (1983) model. In Tseng's conversational data, however, participant's repair of manner was not recorded. The absence of manner repair in her corpus can be attributed to the limited duration of each speech exchange in conversation, which decreases the speaker's speech organization burden and contributes to the absence of speech manner deviation. In the one-speaker situation, however, narrators have to stay on their speech floor for a long time, which accordingly increases the speaker's workload, together with the higher possibility of manner deviation.

(15) na *zhe* *wanyi* *you* *zhe* *zhong* *qingxing* *de* *shihou* ，
     PRT THIS IN.CASE have THIS kind situation GEN situation

ah dangran in most cases ， dagai hai bu hui ，
PRT surely maybe still NEG WILL

danshi wanyi you zhe zhong qingxing de shihou ，
BUT IN.CASE have THIS kind situation GEN situation

ni zhihao ba zhege video tape diaochulai …
2.SG CANNOT.BUT BA FIL recall

'Well, *if this kind of situation occurs*, ah, of course, in most cases, it does not happen, but if this kind of situation occurs, you cannot but recall the video tapes…'

In the next section, the frequency of the speech repairs in the present corpus and the repair strategies are discussed. Insights from the observed errors are also covered in the following discussion.

5. Discussion

In 5.1, frequencies of the errors and of their repair strategies are shown and discussed. Some psychological insights into the Mandarin Chinese repairs are presented in the next subsection.

5.1 Frequency of errors and repair strategies

One hundred and seventy-three tokens of repairs are found in the present corpus.[15] First, maxim of relevance deviation is never noticed in the classroom monologue discourse. Non-existence of such violation is conceivable. In the classroom discourse, speakers had to be well-prepared for their speech before they actually started speaking. Moreover, in each presentation, papers designated for discussion and handouts as reference materials were always available for speakers and listeners to refer to. Thus, it is unlikely that the narrators started an issue irrelevant to their set topic. Whenever the addresser forgot the subsequent issue for discussion, he could always take a look at the documents at hand. In addition, formality of the in-class presentation also prevents its speakers from topic shift. Specifically, the participants realized that they were not

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[15] The other 35 pieces of data are also imperfect but they are unable to be categorized since the correlation between the reparandums and the alterations cannot be correctly determined. The erroneous constituents are either too brief or too obscure to be compared with the repaired utterance. These data, therefore, are not included in this analysis.

expected to discuss any subject matter irrelevant to the topic set for their meeting; thus, they could always stay on the right track during the talk. With regard to maxim of quality violation, 37 tokens are found. Problematic speeches are either with an ungrammatical structure, unintended interpretation or misplaced constituent; they are repaired with the device of correction, restructuring, and replacement respectively. The great number of replacement repair implies that most repairs are for adjusting speech interpretation rather than ameliorating utterance grammaticality. The small percentage of grammatical errors and misplaced constituents in this corpus should be attributed to following reasons. First, participants mainly spoke Mandarin Chinese while illustrating the concepts inside the designated English reading paragraphs. Thanks to the speakers' use of their native language as the medium of communication, grammatical errors seldom occurred. Second, narrators of this research previewed the articles of which they were in charge before delivering speech in class. On account of their earlier preparations, the speakers were fairly aware of their speech content. Thus, it is unlikely that their speech production deviated from their intended communication substantially.

Table 2. Correlation between repairable and repair mechanism

Error-initiated repairables			
repairables with maxim of quality violation (total:37 tokens)	utterances with ungrammatical linguistic patterns	correction	10
	utterances with interpretations not correspond to the speaker's communicative intent	replacement	26
	utterances with misplaced constituents	restructuring	1
Non-error-initiated repairables			
repairables with maxim of quantity violation (total:135 tokens)	utterances with imprecise interpretation	addition	44
	utterances with vague referents	specification	39
	utterances with concepts not thoroughly explained	elaboration	31
	utterances without sufficient illustrations	exemplification	18
	utterances half-uttered	rewording	3

repairables with maxim of manner violation (total:1 tokens)	utterances with inappropriately ordered message chunks	reordering	1
Total			**173**

Maxim of quantity violation in the present corpus takes the largest share, totaling 135 tokens. The high percentage of this deviation indicates that speakers in the present study mostly repaired their speech for improving the utterance clarity instead of rectifying the ungrammatical productions. While delivering speeches, speakers should elaborate the discussed concepts as clearly as possible for they had to be responsible for their listeners' understanding of the discussed issues. To facilitate addressees' comprehension, speakers endeavored to interpret the concerned concepts as much as they can, which, consequently, resulted in the abundance of the speech quantity repair. For improving comprehensibility of the speech, addition, specification, elaboration, exemplification, and rewording are devices that speakers applied to elucidate their productions. Among those mechanisms, addition outnumbered the others. As people interrupted the ongoing talk to make clear their communication, the structure of the original utterance was sure to change because of the inserted items. Nevertheless, the intelligibility of the speaker's communication was improved instantaneously, and subsequent explanations were obviated.

Rarely does the maxim of manner violation occur in this investigation; as shown, only one token is observed. As the addresser has a clear profile of his talk, the chance is slim that the utterance turns out unorganized even though speaking takes place in real time. In other words, participants of the present study do think of what to present, and how to present their ideas before initiating their talk. Their earlier speech planning activities reduce the possibility of manner deviation. However, in our daily spontaneous conversation, people's speech productions may not be as organized as the pre-planned classroom utterances. Before delivering their opinions, people in natural spontaneous conversation cannot sketch their ideas as thoroughly as classroom narrators since their productions are outcomes of interactions between interlocutors, and people's response happens in real time. Because of the instantaneousness of people's everyday communication, it is not surprising that utterances in our daily spontaneous exchange are less structured and thus we have more opportunities to observe how people repair the organization of their speech.

With reference to the procedure of spontaneous speech production, the frequent occurrence of quantity repair and the rarity of manner deviation can also be explained. Speech production is an incremental procedure. When people are about to speak, they

first conceptualize the idea they intend to convey before they actually utter. The conceptualization process encompasses activities of semantic and purpose planning; namely, the structure of the speech is sketched before speaking takes place. Yet, people do not select every lexical item to present their idea before verbalizing; instead, they choose the lexemes to build up the utterance and speak simultaneously (cf. Garrett 1975, 1984, 1988, Wheeldon and Levelt 1995, Postma 2000). On account of the incremental nature of speech production procedure, it is not surprising that people repair their speech quantity more often than the organization of the communication, since the configuration of the speech is constructed in advance, but the lexical building blocks for the spontaneous speech are withdrawn from the speaker's working memory as speech is in process.

5.2 Some psychological insights

It is widely acknowledged that our speaking apparatus involves a set of intricate and rapid procedures, yet it is challenging to understand how utterances are produced since our mental operations are invisible (cf. Eysenck and Keane 2005). Fortunately, "the inner workings of a highly complex system are often revealed by the way in which the system breaks down" (Dell 1986:284). For a long time, researchers have taken great advantage of speech errors to inspect people's mental representations of languages, and delineate models of speech production (cf. Fromkin 1973, Garrett 1975, 1980, 1982, 1984, 1990, Levelt 1983, 1989). In literature, the notion that slips of the tongue are organized productions rather than randomly structured languages is upheld as researchers believe that our speech production apparatus is constrained by a set of rules genetically prewired in the mental working system (cf. Carroll 1986, Chomsky 1965, Eysenck and Keane 2005, Garrett 1975, Hockett 1973). However, the systematicity of the speech blunders is scarcely postulated with the data of Mandarin Chinese repairs (cf. Tao 1995). Fortunately, the examples in the corpus of the present research support those previous notions.

In earlier studies, the repairable and repaired constituent in the substitution repair are found to be phonetically alike and it is then suggested that similar phonetic manifestations are organized closely in our mental lexicon. The adjacency of sounds with similar manifestations in our mental representation is regarded as the trigger of such slip-up (cf. Bergmann et al. 2007, Harley 2001, Nooteboom 1973). In Mandarin Chinese, the same phenomenon is also noticed as shown in example (16) and (17).

(16) jujian   zhuanhuan   duoyu   juzhong
     BETWEEN.sentence   conversion   outnumber   WITHIN.sentence
     zhuanhua**ng** ，shi   zhuanhua[n]…
     conversion   COP   conversion
     'Between-sentence conversion is more frequently observed than within-sentence conversio**ng,** (it) is conversio[n]…'

In excerpt (16), the target coda of the last syllable in *zhuanhuan* 'conversion' is /n/; however, /ŋ/ is uttered by mistake. Evidently, this error was caused by the nasality feature of /n/, and /ŋ/ and the proximity of these sounds' articulation points. More specifically, /n/ is an alveolar nasal, and /ŋ/ is a velar nasal; the position of alveolar, and velar are so close in the oral cavity that speakers can easily slip up their tongue, and misuse alveolar nasal as the velar nasal, and vice versa. In addition to /n/, and /ŋ/, /m/ is the other nasal in the sound inventory of Mandarin Chinese; therefore, we cannot deny the possibility that the speaker may mispronounce the alveolar nasal as the bilabial nasal for their places of articulation are also adjacent. Nonetheless, for *zhuanhuan* 'conversion' to be articulated as *zhuanhuam* is not observed because labial nasal can never occur at the coda position of any Mandarin Chinese syllable. In a nutshell, this example in which /n/ is misused as /ŋ/ confirms the existence of sound combination rules in the language production apparatus of Mandarin Chinese speakers (cf. Chomsky 1965, Bergmann et al.2007).

(17) li   yingzhe   jiaoshou   fuze   de   taiguo   ***man2***，
     Li   Yinzhe   professor   in.charge.of   NOM   Thailand   Bang-
     man4gu3…
     Bangkok
     '***Bang***, **Bang**kok, Thailand of which Professor Yingzhe Li is in charge…'

Excerpt (17) contains an error incurred by the supra-segmental feature of the first syllable in *mangu* 'Bangkok' where the reparandum is a rising tone but the alteration is a falling tone. The rising tone and falling tone both involve a movement of their pitch value; the former shifts from low to high pitch, and the latter shifts from high to low pitch. The similarity of the pitch movement in the rising tone and falling tone contributes to this deviation. Moreover, from this instance, we can notice that only the tone of the repairable is adjusted but other phonetic manifestations of *mangu* 'Bangkok' remain intact after repair, which clearly cues that tone is a discrete linguistic unit in Mandarin Chinese (cf. Li and Thompson 1981).

Psycholinguistically, it is suggested that lexical items with the identical syntactic function are supposed to be arranged in the same area in our mental representation for many repairable, and repaired segments in earlier repair investigations are found to share identical category features even though they are semantically dissimilar (cf. Harley 2001, Garrett 1975, 1976, Levelt 1983). The same phenomenon is noticed in the following examples.

(18) zhe   pian   baogao   zhuyao   shi   yao   ***bi***，   oh(prolonged) shi
    THIS   CL   report   mainly   COP   want   compare   FIL   COP
    yao   cha   zai   shalaoyue   shiwucheng   de   huaren   ta
    want   investigate   AT   Sarawak   Sibu   GEN   Chinese   3.SG
    de   yuyan   nengli   ji   yuyan   shiyong   de   diaocha…
    GEN   language   ability   AND   language   use   ASSOC   investigate
    'This report is mainly to ***compare***, to investigate Chinese people's language ability, and language use in Sarawak, Sibu…'

(19) danshi   zhe   yi   ge   de   chengben   shi   ***hen***   dade
    but   THIS   one   CL   ASSOC   cost   COP   very   huge
    (1-second pause) ***feichang***   dade…
                    extraordinarily huge
    'However, the cost of it is very huge (1-second pause) extraordinarily huge…'

(20) na   zhe   yi   ***fen***， zhe   pian   baogao   zhuyao   shi
    WELL   THIS   one   SERVE   THIS   PIECE   report   mainly   COP…
    yao   bi …
    want   compare
    'Well, this ***serve*** of, this piece of writing is mainly for comparing…'[16]

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[16] The number phrase is missing in the alteration of repair. In Chinese, the phonologically covert number constituent inside the DP is universally with the value of one; hence, the absence of the number does not affect the reading of the repaired phrase. The reading of *na yi pian baogao* 'that-one-CL-report' is the same as *na pian baogao* 'that-CL-report'; namely, they are both with the singular interpretation of 'that report'.

(21) you   shoushizhe ziji   pinggu   ziji   zai   sheme   ***yuyan***   hui
by   participant self   evaluate self   AT   WHAT   language   WILL
yong ，   zai   sheme   **changhe**   hui   yong   sheme   yuyan   gen
use   AT   WHAT   occasion   WILL use   WHAT   language   WITH
duifang   jianghua…
others   talk
'Let participants do the self-assessment test, (let them) check in which ***language***
they will, on which *occasion* they will use which language to communicate with
others…'

In excerpt (18), the repairable *bi* 'compare', and the repaired segment *cha* 'investigate'
are verbs. In excerpt (19), *hen* 'very' was replaced by *feichang* 'extraordinarily'; both
are adverbial modifiers. The target *pian* 'piece' and the error *fen* 'serve' in example
(20) are classifiers in Mandarin Chinese. In example (21), the repairable *yuyan*
'language' and the repaired segment *changhe* 'occasion' are both nominal constituents.
The reparandum and the alteration in each example evidently share a common
category feature even though they are semantically unrelated. In addition to their
identical syntactic attribute, *yuyan* 'language' and *changhe* 'occasion' in example (21)
are also in a common structural frame; specifically, they are both preceded by the
determiner *sheme* 'which', and are complements of the preposition *zai* 'at'. The high
resemblance of their surrounding constituents is another factor that leads to the
happening of this slip-up (cf. Carroll 1986, Garrett 1975, 1976). Furthermore, with the
same instance, we verify the postulate that speakers plan ahead their language when
engaged in the speech production procedure (cf. Eysenck and Keane 2005). Only if
the upcoming speech is planned before it is actually realized on the phonetic level can
the speaker make use of the lexeme *yuyan* 'language' before it should actually appear
in the construction.

6. Conclusion

People are with an ability to acquire and make use of languages with which the
abstract ideas are transformed into concrete linguistic forms to deliver the people's
communicative intent (cf. Chomsky 1965). In the course of speech production, people
first decide on the appropriate lexical items that best convey their communicative
intent, and those selected constituents are later inserted into the appropriate slots of a
chosen syntactic structure before phonological encoding is implemented (cf. Garrett
1975, 1984, 1988, 1990, Postma 2000, Wheeldon and Levelt 1995). However, people's
linguistic performance does not always reflect their competence; speech blunders

occur in every speaker's utterance at least occasionally. Fortunately, people do self-monitor their productions and repair the unexpected utterance if they incidentally slip their tongue. The present research sets out to study the imperfect productions and speech repair patterns in spoken discourse. Unlike the previous Chinese repair studies, which focus on the data extracted from conversations, this research examines speech patterns from naturally occurring academic monologue narratives. The longer duration of the narrative and the passive involvement of the addressees in the one-speaker situation allow us to explore people's erroneous productions and the diversity of the repair mechanisms from a different angle.

In the previous Mandarin Chinese repair studies, the syntactic operations imposed on the alteration of the erroneous production were focused. However, the problem of each reparandum was not particularly analyzed (cf. Tao 1995, Chui 1996, Zhang 1998, Tseng 2006). We, therefore, cannot precisely capture the distribution of people's erroneous utterance in their corpora and the pragmatic functions of the applied repair strategies remain opaque. In addition, it is unlikely to learn the correlation between the erroneous productions and their repair apparatus. In this research, a different approach to examine speech errors is adopted because only if the problem of the speech blunder is distinguished can we correctly assign the pragmatic function of its repair operation. Thus, the repair reparandums in the present corpus are first categorized based on the Gricean Maxims of Cooperative Principle before the analysis of repair mechanism is done. Reparandums in the data of the present corpus include responses that infringe the maxim of quality, quantity, and manner. However, utterance with the violation of maxim of relevance is not observed; its absence can be attributed to the formality of the academic speech, which prevents its speakers from topic shift. The maxim of quantity deviation takes the largest share, which should result from the function of academic communication. In the academic discourse, the speech is with an educational purpose. Therefore, people's responsibility for their listeners' understanding of the talk is a possible trigger for them to improve the informational content of their communication as much as they can. In addition, the incremental nature of the speech production procedure may also contribute to this outcome. Specifically, it is challenging for people to include every piece of information they intend to convey at their first attempt because of the instantaneousness of the speaking activity which, accordingly, results in the frequent occurrence of speech quantity repair. Next, the number of quality violation is much lower than the number of quantity deficiency in the present study. This should be a result of people's use of their mother tongue as the major means of communication. Rarely do people make grammatical mistakes or utter words that they do not intend to convey if they mostly use their native language to express themselves. Finally, the

least occurring repair in the present corpus is for mending the manner of communication. In the course of speaking, people sketch the structure and the content of their communication before they actually verbalize their ideas. It is the speaker's knowledge of the overall arrangement of their talk that downsizes the number of manner deviation.

With regard to repair mechanisms, the syntactic operation of the repair device and the pragmatic function of each operation are both taken into consideration in the present analysis. The correlation of the erroneous speech and its corresponding repair mechanism is clear. From the data of this investigation, it is noticed that the repair devices speakers adopt to repair speech quality deviations include replacement, correction, and restructuring. For speeches violating the maxim of quantity, addition, specification, elaboration, exemplification, and rewording are employed. Finally, reordering is for improving the utterance violating maxim of manner. However, repetition and paraphrase, repair strategies in earlier Chinese repair investigations, are excluded in the present analysis, since they do not enable the speaker to attain a better result of their communication. In brief, different speech deviations are repaired with dissimilar mechanisms on account of the dissimilar fundamental characteristics of the erroneous productions and only if the problem of each repairable is identified can the pragmatic function of each repair apparatus be correctly assigned.

With the inspection of the repair data in the present corpus, it is also observed that Chinese speech deviations, like non-erroneous productions, are constrained by a set of linguistic rules and have a striking resemblance to their repairable constituents. This is because people's utterances, either erroneous or non-erroneous, are generated with the same set of speech production mechanisms wired in our brain.

Appendix

Abbreviation	Term
ASSOC	associative
BA	ba (in Chinese ba-construction)
CL	classifier
COMP	complementizer
COP	copular
CSC	complex stative construction
DUR	durative aspect
EMP	emphatic particle
FIL	filler
NEG	negation
NOM	nominalizer
PFV	perfective aspect

PL	plural
PRT	discourse particle
SG	singular

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Center for Humanities Research
National Science Council
Taipei, TAIWAN
Chihsia Tang: tangchihsia@gmail.com

教室獨白的自我修正機制

唐綺霞

行政院國家科學委員會

自1995年起，語言學家開啓了中文言談錯誤修正的研究。早期的學者皆著重於分析說話者與他人對話時所犯的語言錯誤，並沒有特別研究人們在獨白言談情境下所產生的語言問題。此外，在先前的研究中，研究人員主要致力於分析人們修正錯誤時所採用的句法機制，並沒有特別關注到引發人們修正錯誤的原因。然而，前人的分析方式不但無法清楚點出語言修正發生的起因，也造成了語料歸類不當的問題。因此，本研究的主要目的是觀察教室獨白中說話者會有哪些語言使用的錯誤，採用包爾葛瑞斯合作原則中的四項準則來歸類說話者修正的錯誤類型，同時也觀察說話者修正不同類別錯誤的句法機制並討論其語用功能。最後，在本研究的錯誤分析中發現，未修正與修正過的語言句法形式相當雷同，這顯示即使是需要修正的話語仍然遵循著語言生成機制運作而成。

關鍵詞：言談分析、自我修正、教室獨白演說、中英雙語