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Cover Page Footnote

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Professors' Views of Content Transformation in Students' Paraphrasing

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Abstract: This study explores how paraphrasing transforms and integrates meaning from reading into writing. Findings are based on interviews with 27 professors who commented on 8 paraphrases written by graduate students. Both student writers and professors were selected from across cultural (Chinese and North American) and disciplinary (soft and hard) contexts. Results indicate that the participating professors tended to accept paraphrases that involved a selection or interpretation of the original source that accurately represented the source text, rather than those that contained a misunderstanding or additional ideas. The professors also suggested that students could add an explanation for the content transformation so the paraphrase would be transparent for readers. The study highlights how important it is for student paraphraser to provide guidance for readers so they can follow student content transformations. It also suggests that paraphrasing should be taught explicitly at the graduate level by responding to students' writing while it is in process.

Keywords: discourse synthesis, paraphrasing, citation, graduate writing, professors' assessment

Writers paraphrase source texts to cue readers to relevant textual or content development within a paper. Paraphrasing is an important academic writing skill in discourse synthesis (Spivey, 1984, 1990, 1997), whereby the writer composes by reading and drawing on multiple source texts. In other words, to paraphrase is to transform or recontextualize a source text. Many paraphrases may involve “explicitly expressed meanings, or something only implicit or implied in the original text” (Linell, 1998, p. 148). Since a paraphrase demonstrates how the individual writer understands and uses a source text to develop content for a particular writing task, a source text might be paraphrased with different content transformations by individual writers. The question is then whether certain types of content transformations are more or less acceptable from the perspective of readers. The key question, as Howard et al. (2010) pointed out, is whether and how students represent what is in the source.

Since graduate writing is dependent on working with others' ideas and texts to construct knowledge, professors need to affirm students' practices for transforming content when paraphrasing (Madden, 2020). To explore how a paraphrased text in student writing can be seen or accepted by professors as a process of content transformation in discourse synthesis, this study is based on interviews with professors in North American ($n = 14$) and Chinese universities ($n = 13$) who evaluated eight paraphrases written by graduate students in both Chinese and North American universities. To contextualize the study, the next section will review the theory and research on content transformation in paraphrasing and how such intellectual work plays an important role in discourse synthesis.

Content Transformation in Paraphrasing

Paraphrasing is “recontextualizing source information in one's own writing with a credit to the original author” (Shi et al., 2018, p. 31). A paraphrase differs from a direct quotation by rewording the original text. It also differs from a summary, which can be written to capture the main points of the whole article or book. However, the distinction can be blurred as a

summary relies on paraphrases (Keck, 2006) and a paraphrase can contain a quotation fragment (shorter than a T-unit; Petrić, 2012).

There is an obvious link between effective paraphrasing and discourse synthesis, a constructivist model proposed by Spivey (1984, 1990, 1997), which portrays how writers integrate information into their writing from multiple source texts. From a constructivist perspective, writers are constructive agents of texts as meaning. Like the reader who builds meaning by comprehending and interpreting texts, the writer completing a hybrid task of reading to write goes beyond the given source information to construct new meaning. In other words, source-based writing is to connect meaning constructed from the source text with one's prior academic knowledge to make the content work for the present writing task. Such a transformation or synthesis of a source text manifests intertextuality in academic writing.

Since the writer approaches readings of source texts to construct meaning, discourse synthesis, as Spivey (1984, 1990, 1997) proposes, involves three constructive acts or transformations: selecting, organizing, and connecting. *Selecting* refers to how the writer selects source information as cues to shape meaning in their writing. The textual relevance of selected information is closely related to the meaning being constructed in the new text. To organize the selected information, the writer then performs *organizing* by constructing a unique written textual structure. During the process, the writer also performs *connecting* by filling in the gaps of information using their prior knowledge. Spivey (1997) calls such intertextual connections “intertext” (p. 135). Together, the textual transformations of selecting, organizing, and connecting illustrate a dynamic process of appropriating source texts into a new textual tapestry as writers “dismantle sources and reconfigure content” (Spivey, 1990, p. 260). The three operations are related, intertwined, and overlapping. Originality or knowledge “come[s] through synthesis as new connections and possibilities” (Spivey, 1997, p. 242).

If discourse synthesis is to select, connect, and organize source information, paraphrasing is a significant citation practice for merging reading and writing into a selective, interpretative, and generative process of meaning making. Parallel to a synthesizer, who organizes and makes connections to selected source information, a paraphraser restructures a source text using the strategies of selecting, extending, elaborating, and adding. In a sense, paraphrasing is a window to how discourse synthesis works at a local or sentence level (i.e., as a microprocess or miniature version of discourse synthesis).

When parts of discourse are paraphrased and relocated through recontextualization, according to Linell (1998), they are subject to not only textual change but also meaning transformation “involving shifts of meaning and new perspectives, the accentuation of some semantic aspects, . . . [and] the attenuation or total elimination of others” (p. 148). Meaning is created in the new context because, as Spivey (1997) put it, “texts are read by different people in different contexts, and means of ordering change because they, too, are constructs” (p. 120). Based on her observation of how an expert writer recontextualized source texts to create new meaning through citing or paraphrasing others, Li (2015) pointed out that failure to recontextualize meant a lack of engagement with the source texts, which would lead to inappropriate or transgressive intertextuality.

While exploring students' strategies of paraphrasing, researchers have noted how writers select source texts (Keck, 2014), patch write from individual source sentences by “reproducing source language with some words deleted or added, some grammatical structures altered, or some synonyms used” (Howard et al., 2010, p. 181), restructure source information (e.g., Sun & Yang, 2015), and add ideas not explicitly stated in the original text (Keck, 2010). An examination of good paraphrasing has also highlighted the writer's ability to transform knowledge based on inferential thinking (Yamada, 2003) and level of content knowledge (Shi, 2012). Researchers have observed that undergraduates and novice writers mostly practice paraphrasing by focusing on linguistic modifications (rewording

and rearranging syntax), and thus, as Hirvela and Du (2013) noted, these writers view paraphrasing as a strategy for knowledge telling rather than a recontextualization of the paraphrased text with one's own voice. Many student writers also hesitate when paraphrasing to voice their own interpretation or authorial intention for fear of falsifying the original meaning (e.g., Sun, 2009).

Two recent studies have examined how student writers paraphrased by selecting, restructuring, and integrating the source texts into their own writing. Shi et al. (2018) analyzed 192 paraphrases identified by 18 graduate students in their writing at a North American university. Based on the participants' comments in text-based interviews, during which students talked and reflected on their paraphrasing, the majority of the paraphrases were identified as syntactically restructured, and many contained content recontextualizations. Students in hard disciplines commented more on how they used interpretations, whereas students in soft disciplines commented more on how they selected information. Participants across disciplines also commented on how they added their own ideas. For example, one student paraphrased a tentative claim in a source text about a clinical debate ("It could have been . . .") by making the claim assertive ("It has been theorized that . . .") to add her own view, based on her own readings of literature (pp. 40–41). In another study, Shi and Dong (2018) explored content recontextualization (selecting, interpreting, adding/extending ideas) by analyzing text-based interviews focusing on 117 paraphrases of 17 Chinese graduate students in Chinese ($n = 66$) and English ($n = 51$) writing. Compared with English paraphrases, which mostly featured the selecting of original information, the Chinese paraphrases contained more instances of interpreting and extending original ideas. This result indicates the important role of language proficiency, as Chinese students appeared more confident in paraphrasing based on their comprehension and interpretation of source texts in their first language. These findings suggest that paraphrasing not only requires similar reasoning operations to discourse synthesis but also

might be influenced by writers' language and disciplinary background as they recontextualize source information.

The Present Study

The literature review suggests that paraphrasing is a constructive act in discourse synthesis in which writers create new texts through the content transformations of selecting, organizing, and adding. Research is needed to explore how professors perceive and evaluate the relevant students' performances in order to find out how explicit writing instruction on paraphrasing should be provided to graduate students. As Micciche and Carr (2011) stated, it is crucial that students receive guidance about how to position themselves in relation to other writers in the process of writing. In addition, research should verify the possible influence of professors' and students' language (Shi & Dong, 2018) and disciplinary background (Shi et al., 2018) on how source information is recontextualized. To fill in these gaps, this study examines students' paraphrasing with the following research question:

- How do Chinese and North American professors perceive graduate students' content transformation in paraphrasing?

Method

Participating Professors

A total of 27 faculty members (11 full, 11 associate, and five assistant professors) participated in the interviews. Of these professors, 14 (eight in Arts and Social Sciences, and six in Applied Sciences and Science) were from a North American university, and 13 (eight in Arts and Social Sciences, and five in Applied Sciences and Science) were from several Chinese universities. All the Chinese professors were native speakers of Chinese, whereas the North American professors were native speakers of English, with the exception of two professors who were bilingual in

English and Chinese. The North American participants were volunteers who responded to an email invitation sent to a randomly selected list of faculty. Contact information for these faculty was taken from university websites. The same procedure was used to recruit Chinese professors in one university in mainland China. However, only six professors volunteered, so the six participants were asked to recommend other professors (snowball sampling). As a result, another seven Chinese professors from four other universities were recruited. Participants (Table 1) are assigned a pseudonym with the first letter indicating their area of expertise (e.g., E = Education, A = Arts, S = Science or Applied Science).

Students' Paraphrases

Eight paraphrases (Appendix A) were selected from paraphrases collected for a large study in which participating graduate students across disciplines in a North American and a Chinese university were invited to identify paraphrases in their writing and comment on how they performed content transformations. The paraphrases from the student writing were numbered for random selection. A total of 14 paraphrases were initially selected and then a further selection was made so that the selected paraphrases were written by different students, with a balance between Chinese and English paraphrases. Of the eight paraphrases selected, four were written in English by students in North America and four were written in Chinese by students in mainland China. Compared with the Chinese-language writers, who were all Chinese native speakers, one English-language writer was a native speaker and the other three were advanced second-language (L2) writers (one obtained an undergraduate degree in a Canadian university, and the other two had high TOEFL scores [over 100] when they were admitted to the participating university). To protect the identity of these student writers, the original author of the cited source text is indicated as "XXX" and footnote numbers from this text have been replaced with "[footnote]" in this paper.

Table 1
Participating Professors' Profiles

	ID	Faculty	Gender	Age	Professorship
North American professors	Elaine	Education	F	50–59	Full
	Elizabeth	Education	F	50–59	Full
	Edna	Education	F	40–49	Full
	Edward	Education	M	60–69	Associate
	Ann	Arts	F	60–69	Associate
	Adam	Arts	M	30–39	Assistant
	Braine	Business	M	50–59	Associate
	Lear	Law	M	30–39	Assistant
	Sedge	Applied Science	M	40–49	Associate
	Scot	Applied Science	M	30–39	Assistant
	Steven	Applied Science	M	30–39	Assistant
	Shanika	Applied Science	F	50–59	Full
	Sharlene	Applied Science	F	30–39	Assistant
	Sever	Science	M	60–69	Full
Chinese professors	Earl	Education	M	50–59	Full
	Eadge	Education	M	50–59	Associate
	Easton	Education	M	60–69	Full
	Earwin	Education	M	50–59	Full
	Easter	Education	F	40–49	Associate
	Eadlin	Education	F	40–49	Associate
	Badden	Business	M	30–39	Associate
	Babby	Business	F	40–49	Associate
	Sandy	Applied Science	F	50–59	Full
	Samuel	Science	M	50–59	Full
	Sara	Science	F	30–39	Associate
	Mackinzie	Medicine	M	50–59	Full
	Madge	Medicine	F	50–59	Associate

The paraphrases were written by seven master's students and one PhD student. The four Chinese paraphrases (along with the matching source texts and students' own comments) were translated into English for the North American professors, and the data of English paraphrases were translated into Chinese for the Chinese professors. However, both the English and the Chinese versions of the data were available for the participants that knew both languages. In fact, two North American professors and most of the Chinese professors read the data in both languages. A research assistant and I translated the texts carefully to make sure that the paraphrases were comparable in the two languages and had the same amount of copying or patchwriting. For example, if the student used a particular set of words from the source text in the paraphrase when writing in Chinese, we would do the same when translating the data into English. For each paraphrase, Table 2 presents the theme, paper topic, and type of writing in which the paraphrase occurred.

Interviews

Interviews were conducted to solicit professors' comments on students' paraphrasing. Each interview was held in the office of the interviewee and lasted about an hour. The interviews were recorded and conducted in the language (either English or Chinese) the participant preferred. About a week before the interview, the professors were emailed three sets of data: the paraphrases, the matching source texts, and the students' own comments about how they paraphrased. The participants were told that four paraphrases were originally written in Chinese by students in mainland China and four were written in English by students in North America. The guiding interview question was, "How would you evaluate this paraphrase written by the student?" The professors were asked to comment specifically on (a) whether they found the student's transformation of content in each paraphrase acceptable and (b) if they had any suggestions for improvement. Although participants were asked to simply comment on the quality of the paraphrases, some participants compared the practices to

Table 2
The Eight Paraphrases

	Theme of the paraphrase	Topic of the paper	Type of writing
Chinese paraphrases	1. Early love	Phenomenon of high school students' love	Course paper in English education
	2. Development of tourism	The visiting fee of ancient villages	Research paper to prepare for MA research in tourism management
	3. Feature extraction	Intelligent flutter detection based on the description of support vectors in number fields	Course paper in mechanical engineering
	4. Communication modes	Government public relations from a social media perspective	Course paper in international relations
English	5. Maternal mortality	Maternal and neonatal health	Qualifying paper for PhD research in public health
	6. Oral health	Chinese immigrant parents' beliefs, attitudes, and knowledge in relation to children's oral health	Course paper in public health
	7. Descriptive codes	Results of the 6th Avenue quilting event	Course paper in urban planning
	8. Products of sequencing	Next-generation sequencing (NGS) and its individual applications	Course paper in chemistry

those of their own students. To provide the context of each paraphrase, an abstract of the paper and a couple of sentences before and after the paraphrased text were provided. In addition, hard copies of the student papers were available during the interview in case the professors wanted to check an extended text.

Data Analyses

Participants' interview comments were transcribed. A research assistant and I first coded 13 of the 27 interviews separately to identify whether the professors found the content transformation in the paraphrases acceptable or not. Of the 108 mentions (13 interviews \times 8 paraphrases), we reached an agreement of 82% (89 out of 108). The disagreement revealed that some participants did not comment explicitly on the acceptability of the content transformation but instead commented on inappropriate rewording, the wrong use of citations, too much copying, or patchwriting. Some participants also commented on the need for the writer to explain the transformation and the difficulty in making an assessment because of a lack of content background. To solve the coding discrepancies, a new coding scheme was constructed. I coded all of the data to cover not only comments on whether the content transformation was acceptable or not but also other comments on whether it needed more explanation, was difficult to judge, or contained problems such as inappropriate rewording, problematic citation use, or too much copying or patchwriting (see Appendix B for the coding scheme and examples).

I calculated the frequencies of comments to identify tendencies among participants and whether some paraphrases received more positive or negative comments on content transformations. To compare the comments, I followed Becher's (1994) categorizations of academic disciplines to assign the participants to hard sciences (including pure hard and applied hard) or soft sciences (including pure soft and applied soft). Summarizing the differences among these disciplines, Neumann et al. (2002) pointed out that pure-hard disciplines (e.g., physics, chemistry) with "a cumulative, atomistic structure, concerned with universals, simplification and a quantitative emphasis" are in contrast with pure-soft disciplines (e.g., arts, history), which are "reiterative, holistic, [and] concerned with particulars and having a qualitative bias" (p. 406). Derived from the hard-pure enquiry are the hard-applied disciplines (e.g., engineering) "concerned with mastery of the physical environment and geared towards products and techniques" (p.

406). In comparison, the soft-applied disciplines (e.g., education, business) are dependent on soft-pure enquiry and are “concerned with the enhancement of professional practice and aiming to yield protocols and procedures” (p. 406). While Chi-square tests were run in this study to identify significant differences between soft and hard disciplines and between Chinese and North American faculty, likelihood ratios, rather than Pearson Chi-square statistical values, were interpreted and reported because some cells in the present data had expected frequencies smaller than five. In addition, participants’ other comments or suggestions were analyzed to identify how these paraphrases could be improved.

Findings and Discussion

Paraphrases Generating More Positive Mentions

Of the 27 professors’ mentions on the acceptability of the relevant content transformation in the eight paraphrases ($N = 216$), 68 (31%) were deemed acceptable and 95 (44%) were not. The rest (53 [25%]) were not explicit mentions of content transformation because the professor either lacked background knowledge or commented on other aspects of the paraphrase, such as copying or patchwriting, specific rewording, or the use of citations. Table 3 presents the three paraphrases that generated more positive (acceptable) than negative (not acceptable) mentions on content transformation. The paraphrases about the products of sequencing and oral health were both accepted by 18 participants, followed by the paraphrase regarding feature extraction, which was accepted by 14 participants. The paraphrase about the products of sequencing received no negative mentions, though the other two paraphrases received eight negative mentions each. Chi-square tests showed no significant differences in participants’ comments between cultural or disciplinary contexts for the three paraphrases.

The paraphrase about the products of sequencing was written by a North American chemistry student who interpreted the source sentence

Table 3
The Three Paraphrases That Generated More Positive Mentions on Content Transformation

	Content transformation	Groups	Acceptable	Not acceptable	No explicit mention	Total	LR	Asymp. Sig. (2-sided)
Products of sequencing	Interpreted “sequencing mechanisms” as main strategies	North A.	11	0	3	14	1.879	0.17
		Chinese	7	0	6	13		
		Hard	6	0	5	11		
		Soft	12	0	4	16	1.219	0.27
		Subtotal	18 (67%)	0 (0%)	9 (33%)	27 (100%)		
Oral health	Excluded details of “oral health” to focus on “dental caries”	North A.	9	4	1	14	1.349	0.509
		Chinese	9	4	0	13		
		Hard	8	2	1	11		
		Soft	10	6	0	16	2.771	0.25
		Subtotal	18 (67%)	8 (30%)	1 (3%)	27 (100%)		
Feature extraction	Interpreted “feature extraction” as “vibration processing”	North A.	8	3	3	14	0.956	0.62
		Chinese	6	5	2	13		
		Hard	7	2	2	11		
		Soft	7	6	3	16	1.363	0.506
		Subtotal	14 (52%)	8 (30%)	5 (19%)	27 (100%)		

about NGS mechanisms (by synthesis and by ligation) as a description of two main strategies “to detect the products of sequencing reactions.” The student writer considered the source information “a simple concept, so it was very easy to just use my own words . . . [which] shows whether I understand it better.” The majority of the professors ($n = 18$) confirmed that the student did demonstrate good understanding. Shanika, for example, said

that the paraphrase showed “perfect understanding instead of just repeating what [was] said.”

Similarly, the paraphrase about oral health was accepted by 18 professors. The writer, a North American student in public health, defined oral health as specifically relating to only tooth decay or dental caries, which she focused on in her own paper, compared with the definition in the matching source text, which also covered gum disease, tooth loss, pain, cancer, sores, and birth defects. Although some professors ($n = 8$) questioned whether one could exclude any information when paraphrasing a definition from an authorial source such as the World Health Organization, most participants accepted the relevant content transformation. For example, Sharlene commented that “it is a good representation of the source information” and that such a selection of information successfully directs the reader’s attention to the focus of the student’s writing. The following is a similar comment from another Chinese professor of business (comments translated from Chinese are italicized in this paper):

Babby: *It is acceptable to select information based on one’s need. I do the same in my own paraphrase[s], especially when referring to a research method in my area.*

Babby’s reference to her own writing highlights the role of disciplinary knowledge in assessing paraphrasing, which role is also highlighted in participants’ comments on the paraphrase about feature extraction, which was composed in Chinese by a student in mechanical engineering based on an English source text. The student inserted his own idea of “vibration processing” which, as the student explained, could be a type of “feature of vector” mentioned in the source text. Although several professors in soft disciplines ($n = 8$) found the interpretation problematic because the “whole thing” (i.e., feature of vector) does not necessarily mean or apply to every single aspect (i.e., vibration processing), a total of 14 professors (eight in soft and six in hard disciplines) accepted the interpretation, believing that the student made the right decision. The following is a comment from Sever,

who confirmed the acceptance of the content transformation using his expertise in the area:

Sever: This is my background. I know exactly what this guy is talking about. I think this guy may be focusing particularly on vibration, whereas this [source] context is broader. It could be vibrations or workload. I mean, this is a cutting machine. It's acceptable.

Based on the participants' comments, the three paraphrases that generated more positive mentions on content involved a selection of information (e.g., dental caries) and interpretation based on an understanding of either a disciplinary concept (e.g., NGS mechanisms) or a relationship between two disciplinary concepts (e.g., vibration processing and feature of vector). These examples illustrate that students who paraphrase, which action is a microprocess of discourse synthesis, not only select but also interpret relevant information to construct meaning in the new text. While students' selection of information was acceptable for many professors, interpretations were more likely to be accepted when they were judged to be accurate from the readers' perspective. Compared with Sever and other professors in hard disciplines who accepted the feature-extraction paraphrase because of their background knowledge, some professors in soft disciplines accepted the paraphrase predicated on their trust in the writer. Such a trust, since it is not grounded in an insider's perspective, might vary as readers assess content transformation in different paraphrases. As the present data illustrate, more professors chose to trust the writer's knowledge and accept the content transformation in the paraphrase about products of sequencing than in the paraphrase about feature extraction. Reader assessment, therefore, might not be reliable when the content is outside one's discipline.

Paraphrases Generating More Negative Mentions

Table 4 illustrates five paraphrases that generated more negative than positive mentions on content transformation. Of these paraphrases,

development of tourism received the most negative mentions ($n = 20$), followed by communication modes ($n = 17$), maternal mortality ($n = 16$), descriptive codes ($n = 15$), and early love ($n = 11$). These paraphrases received a small number (ranging from zero to seven) of positive mentions. However, only the paraphrase about maternal mortality showed a significant difference between the Chinese and North American professors ($\chi^2(2, 27) = 6.375, p < .05$).

The paraphrase about maternal morality was written by a student in public health who interpreted the data to suggest that reforms were deficient as they failed to achieve the goal set by Millennium Development Goal Five (MDG Five), which goal was listed in a document he had read previously. Most of the negative mentions (10 out of 16) came from Chinese professors who commented that “the deficiency of reforms” was the student’s own opinion, not the idea of the original author. In contrast, half of the North American professors (seven out of 14) did not comment explicitly on the relevant content transformation but saw the paraphrase as having a citation problem—they suggested that the student add a citation about the reforms to improve the paraphrase. The following quotes illustrate the two perspectives:

Mackinzie: *The student has changed the original meaning. It is his view, not the original author’s idea. This is not a paraphrase.*

Lear: Here the source text just talked about the estimate. It doesn’t make any suggestion of what this means. . . . I would . . . add another [citation], with reference to the MDG Five.

The different perspectives suggest that the Chinese professors tended to focus on the accuracy of content transformation, whereas the North American professors focused on how the student could be guided to improve the paraphrase by adding a citation for the extra information used. In other words, the latter group viewed the paraphrase as having an amendable citation problem rather than a misrepresentation of the source information. Previous research has reported that some Chinese graduate

Table 4
Five Paraphrases That Generated More Negative Mentions on Content Transformation

	Content transformation	Groups	Acceptable	Not acceptable	No explicit mention	Total	LR	Asymp. Sig. (2-sided)
Development of tourism	Interpreted low expectations for entertainment and business-service facilities to mean that these facilities are less important than public transportation	North A.	4	10	0	14	0.106	0.744
		Chinese	3	10	0	13		
		Hard	3	8	0	11	0.017	0.895
		Soft	4	12	0	16		
		Subtotal	7 (26%)	20 (74%)	0 (0%)	27 (100%)		
Communication modes	Added the idea of government public relations acting as a two-way communication	North A.	0	7	7	14	2.141	0.143
		Chinese	0	10	3	13		
		Hard	0	7	4	11	0.004	0.952
		Soft	0	10	6	16		
		Subtotal	0 (0%)	17 (63%)	10 (37%)	27 (100%)		
Maternal mortality	Interpreted the reported mortality as a deficiency of reforms	North A.	1	6	7	14	6.375	0.041*
		Chinese	2	10	1	13		
		Hard	1	5	5	11	2.22	0.33
		Soft	2	11	3	16		
		Subtotal	3 (11%)	16 (59%)	8 (30%)	27 (100%)		
Descriptive codes	Interpreted descriptive codes as answers to certain questions	North A.	3	7	4	14	0.374	0.829
		Chinese	2	8	3	13		
		Hard	2	5	4	11	1.112	0.573
		Soft	3	10	3	16		
		Subtotal	5 (19%)	15 (55%)	7 (26%)	27 (100%)		
Early love	Added an elaboration on early/first love	North A.	1	7	6	14	1.208	0.547
		Chinese	2	4	7	13		
		Hard	2	4	5	11	0.936	0.626
		Soft	1	7	8	16		
		Subtotal	3 (11%)	11 (41%)	13 (48%)	27 (100%)		

*Significant at $p < .05$.

students tend to not use proper citations in paraphrasing (Shi & Dong, 2018). The present findings suggest that this trend might be because of a lack of attention or guidance from their professors. However, since the pedagogical need to teach students how to cite was only brought up while reviewing one paraphrase in this study, future studies need to verify the difference between faculty across cultural contexts regarding this issue. The fact that no significant differences were found among professors across cultural and disciplinary contexts in their acceptance of most paraphrases suggests that participants' views revealed mostly individual rather than group differences.

Like the maternal-mortality paraphrase, the paraphrases about the development of tourism and descriptive codes were also based on how the writer interpreted the source information. The student writing about the development of tourism interpreted tourists' low expectations for entertainment and business-service facilities as a value statement indicating that these factors were less important than public transportation at the tourist site. The student writing about descriptive codes interpreted the data codes as answers to "what, where, and how types of questions." The participating professors expressed negative views on these interpretations. Many participants ($n = 20$) stated that the interpretation in the paraphrase about the development of tourism was a misunderstanding of the original text's idea because a low expectation toward something (i.e., entertainment and business facilities) does not mean that the thing is less important. Similarly, over half of the participants ($n = 16$) found that the interpretation in the descriptive-codes paraphrase had few connections to the source text. The following are two typical comments from participants describing these paraphrases:

Sharlene: Low expectations [in the development of tourism mean] I don't expect something to be high quality or the service to be good. But it doesn't mean they are not important.

Steven: The paraphrase [about descriptive codes] is less clear than the source text. . . . There's almost no connection. I just don't know what they are trying to say.

The other two paraphrases that received mostly negative comments both contained additional ideas. The paraphrase about communication modes had an additional idea of government public relations acting as a two-way communication, though the source text only stated that the government played two roles (information source and noise or interference) in the process of communication. Similarly, the writer of the paraphrase about early love added her own elaboration of how early love or first love is pure (without any material desire) to the source's idea that "the feeling of love between boys and girls should be called first love." Commenting on these additional ideas, many professors ($n = 20$) said that the content transformation in the communication-modes paraphrase was a misconstruction of the original text's idea of government roles (i.e., its duality of source and noise) and that the student wrongly applied the concept of "two-way communication" in government public relations. Similarly, some professors ($n = 11$) commented that the content in the excerpt about early love, except the first sentence (defining early love as first love), was not a paraphrase but the student's own position or a deeper restating of the topic. The following comments illustrate these sentiments:

Braine: No, I don't think it's "two-way" [in communication modes].

It's mixing together two different concepts. The "two-way" [back and forth] is not really faithful to the original text [which contained the idea of a duality of two roles].

Sandy: *I don't think this [excerpt about early love] is a paraphrase. . . . She probably formed her own ideas while reading. . . . This is her idea.*

Participants' negative comments highlight their concerns of how source texts might be misrepresented when students add their own interpretations or ideas. Professors deemed interpretations unacceptable when there was a potential misunderstanding of the source information (as in

the tourism-development paraphrase) or an unclear connection to the source text (as in the descriptive-codes paraphrase). The professors also found paraphrases unacceptable when they contained an idea not found in the matching source text (as in the paraphrases regarding maternal mortality, communication modes, and early love). Such concerns, again, suggest the importance of the reader's perspective in paraphrasing. Appropriate content transformation is subject to readers' judgement on the connectivity between the source and the paraphrased text. If the connecting transformation in discourse synthesis is to join pieces of information (Spivey, 1997), the connecting strategy in paraphrasing is to display a clear relationship between the source and the paraphrased text. It was evident from the students' explanations that the students all had a rationale for how they wrote their paraphrases. However, some paraphrasing behaviors, as the present study indicates, might be judged unacceptable by their professors.

Other Comments or Suggestions

Table 5 illustrates other comments and suggestions ($n = 134$) on the eight paraphrases. Apart from comments that mention the need to explain the logic of a content transformation ($n = 58$, 43%), a few comments are concerned with the difficulties in judging a paraphrase because of a lack of background knowledge ($n = 7$, 5%). There were also comments that mentioned ($n = 16$, 12%) the way certain terms were reworded (e.g., replacing "feature" with "feature vector" in the feature-extraction paraphrase, and "mechanism" with "strategies" in the sequencing-products paraphrase). In addition, there were suggestions ($n = 43$, 32%) that citations could be either added (if the interpretation was based on another reading) or excluded (if the addition was the writer's own idea). For example, some participants suggested that a citation could be added for the statement "early love is first love" in the early-love paraphrase, for the idea "public relations acts as a two-way communication" in the communication-modes paraphrase, and for the information of MDG Five in the maternal-mortality paraphrase.

Finally, a few professors mentioned that the two Chinese paraphrases about communication codes ($n = 7$) and feature extraction ($n = 3$) had too much copying or patch writing, which comments confirm previous observations of substantial textual borrowing in students' paraphrasing in Chinese (e.g., Shi & Dong, 2018). The present findings also confirm that students copy or patch write in paraphrasing not only at the undergraduate level (e.g., Currie, 1998; Howard et al., 2010) but also at the graduate level (e.g., Flowerdew & Li, 2007). Patch writing, as Howard (1999) has suggested, is how students learn to obtain membership in a discourse community through a long process of practice and the development of academic literacy.

Table 5
Other Types of Comments

Paraphrases	Need to explain	Cannot judge	Inappropriate rewording of a specific term	Wrong use of a citation	Too much copying or patch writing	Total
1. Early love	9	0	0	18	0	27
2. Communication modes	11	1	0	9	7	28
3. Development of tourism	8	0	0	0	0	8
4. Feature extraction	5	1	8	3	3	20
5. Maternal mortality	19	1	0	8	0	28
6. Oral health	1	0	0	0	0	1
7. Descriptive codes	5	4	0	3	0	12
8. Products of sequencing	0	0	8	2	0	10
Total	58	7	16	43	10	134
%	43	5	12	32	7	100

Many of the mentions (58, 43%) focused on the need for the writer to explain the content transformation or the connectivity between the source and the paraphrased text. Commenting on the importance of explaining the logic of the writer's interpretation or paraphrase, the professors wondered, for example, how the "two-way" theory was compatible with the two roles (information source and noise or interference) of the government ($n = 11$, communication modes) and why "low expectation" meant "less important" ($n = 8$, development of tourism). Of the eight paraphrases, maternal mortality received the most mentions on the need to explain the paraphrase's logic ($n = 19$). These mentions suggest that the student should present the rationale or logic for his interpretation that the reform was deficient. The following is a typical comment from professors regarding the maternal-mortality paraphrase:

Earwin: *The student did not explain clearly. . . . First we should know the number ten years ago. If you want to present your view about the insufficiency of reform, you need to present the data as evidence. . . . The student might have the right interpretation, but he needs to explain, maybe using a footnote.*

The data suggest the importance of explaining one's interpretation in paraphrasing. Lack of explanation, as the present data illustrate, casts doubt among readers. Professors were concerned when they encountered disruptions in the flow of the text and had a hard time filling in the missing links. Paraphrases that lack explanation could be labeled as misinterpretation, inaccurate representation, or the writer's own idea rather than a paraphrase. From the constructivist perspective, an author-audience relationship is essential as writers anticipate and use textual cues to influence the readers' construction process. As Spivey (1984) has noted, the less able discourse synthesizer tends to produce text that puts an extra burden on the reader to make certain connective operations. Therefore, student writers need to be explicit about the connectivity between the source text and the paraphrase. They need to make clear how they reach

their interpretation and develop their own views through paraphrasing. Participants' concern about the lack of clarity in some student paraphrases confirms the challenge for student writers to develop an ability to anticipate and understand how readers build meaning while reading and assessing their paraphrases and discourse synthesis.

Summary and Conclusion

The present study highlights the reader's role in assessing a paraphrase. Even though previous observations have suggested that students recontextualize their paraphrases by selecting, interpreting, and adding ideas (Shi et al., 2018; Shi & Dong, 2018), the present study shows that faculty members might disagree about whether such content transformations are acceptable. Many professors commented on the importance of content transformations that accurately and clearly represent the original text's meaning. The professors tended not to accept content transformations that seemed to contain misunderstandings (e.g., the paraphrase about the development of tourism) or extra information not found in the matching source text (e.g., the paraphrases about descriptive codes, communication modes, and maternal mortality). However, paraphrases that involved a selection of information (e.g., the paraphrase about oral health) or interpretations that accurately represented the source text (e.g., the paraphrases about products of sequencing and feature extraction) were generally accepted. Compared with the Chinese professors, the North American professors focused more on how to add relevant citations for extra information when commenting on the paraphrase about maternal mortality.

The study is limited in its small sample size with many variables (e.g., hard vs. soft disciplines, Chinese vs. English paraphrases, master's vs. doctoral students). In addition, some paraphrases that were included in the data set are technical and may have required inside knowledge to assess adequately. Future studies could focus on professors in a particular discipline commenting on paraphrases from students in the same discipline. Finally, the participating professors encountered the paraphrases mostly

as standalone pieces, since most of the participants did not ask to read the text surrounding the paraphrase. There is certainly a difference between reading a paraphrase in isolation and reading one in the context of a full paper. Such a difference needs to be further explored in future research.

Despite its limitations, the present study illustrates how some professors across disciplinary and cultural contexts assess students' paraphrasing and think evaluatively about what good paraphrasing is. To help make content transformations transparent, students are advised to provide explanations to guide readers. The present study reveals that students do not provide enough explanation. As a result, professors often fail to follow unwritten interpretations or inferences, wondering what and how certain source information is selected or interpreted, why new information is added, in what ways the added information is connected to the matching source text, and whether the added information is from a different source. When such details are missing, faculty members make their own inferences and are likely to judge the paraphrase unacceptable. The present data confirm that paraphrasing, a microprocess of discourse synthesis, is an active process of providing "textual cues to signal meaning to readers" (Spivey, 1997, p. 146). It is a process of recontextualization with, as Linell (1998) put it, "a prospective aspect, addressing particular audiences and thereby partly anticipating their (re)interpretations" (p. 153).

Following Micciche and Carr (2011), who advocated for explicit writing instruction for graduate writing, the present study suggests that paraphrasing should be taught explicitly at the graduate level by responding to students' writing while it is in process. For example, in responding to students' content transformation in a paraphrase, instructors should guide students in exploring issues raised by the participants in the present study, focusing on whether the paraphrased text demonstrates an appropriate understanding or interpretation of the matching source text. Such responses to student writing nurtures "dual effort to read carefully so as to represent faithfully another's work and to build from that work in order to keep ideas in play and advance knowledge" (p. 480). In a workshop

or class context, as the student writer explains and other peers and the instructor discuss the relevant content transformation, both the instructor and students develop an “awareness of issues, approaches, value systems, and meaning-making processes” (p. 496). From the writer’s perspective, attention to the reader’s needs allows the student writer to engage in a social process of writing through reading, paraphrasing, and responding to others’ writing. It is only through such an instructional and interactional process supported by advice and feedback that graduate students can develop appropriate paraphrasing skills.

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Appendix A

Paraphrases, Matching Source Texts, and Writers' Comments*

	Matching source text	Paraphrased text	Writer's self-report
Early love	<p>Many people call the feeling of love between boys and girls as "early love," which is actually an embarrassing expression because it is not scientific. The feeling of love between boys and girls should be called "first love." First love is beyond reproach. First love is the first blooming flower in one's life.</p> <p>(from XXX, 2009)</p>	<p>The so-called "early love" should be "first love." First love is pure. It is a feeling of love derived from the mutual attraction between boys and girls. It is beautiful love that does not include any material desire. There is no desire for money, power, or marriage. There is only love.</p>	<p>I defined "early love" based on my own understanding, and [I] considered that early love is a kind of first love. There is extensive change in the paraphrase. The source text is too long, so I shortened it.</p>
Communication modes	<p>According to Shannon-Weaver's model, any kind of communication activities can easily be seen as a process composed of [four] essential elements of information source, transmitter, noise, [and] recipient. Viewing government public relations activities from the perspective of communication studies, we will find that the government has two roles in this process—information source and noise, and the media also have two roles in this process—transmitter and recipient.</p> <p>(from XXX, 2010)</p>	<p>From another perspective, according to Shannon-Weaver's communication model, any kind of communication activities can be seen as a process composed of the [four] essential elements of information source, transmitter, noise, [and] recipient. As government public relations is a kind of two-way communication activity, the government is playing two roles in this process—information source and noise producer, while the media are playing the roles of transmitter and recipient.^[footnote]</p>	<p>As I preferred to use the definition of "government public relations" by Grunig from the University of Maryland, which indicates that it is "two-way equal excellent public relations," I added my ideas and included the word "two-way," which was my preferred understanding.</p>

Shi, L. (2021). Professors' views of content transformation in students' paraphrasing. *Journal of Response to Writing*, 7(2), 112–144.

	Matching source text	Paraphrased text	Writer's self-report
Development of tourism	<i>Most of the tourists are satisfied with the traffic and infrastructure of Zhouzhuang, and have a low expectation toward its entertainment facilities and business services and facilities. (from XXX, 2005)</i>	<i>As to the development of tourism in Zhouzhuang, the entertainment facilities and business services and facilities are less important.</i> ^[footnote]	<i>It is an interpretation of the original text. . . . I thought it could support my viewpoints. I consider that my understanding derived from the original text, not from my imagination.</i>
Feature extraction	Feature extraction is an essential step. The success of a classification system depends on the effectiveness of the features representing the patterns of different conditions. The extracted features should be sensitive to the change of cutting state and insensitive to the change of environmental condition (such as vibration from the ground, workload). (from XXX, 2010)	<i>In a smart detection system, feature vector extraction is an essential step. An effective detection system should depend on the feature vectors to represent the feature information under different conditions.</i> ^[footnote] <i>As to the feature vectors for vibration processing, they should be sensitive to the change of processing state and insensitive to the change of processing environments.</i>	<i>When I translated the original text, I combined it with some of my ideas. . . . I used "vibration processing," which was not from the original text. As the feature vector could be any feature, I defined it as "vibration processing," which was what my paper talks about.</i>
Maternal mortality	The maternal mortality ratio is 359 deaths per 100,000 live births for the five-year period before the survey. (from XXX, 2012)	Unfortunately, a recent estimate of maternal mortality in Indonesia suggests that previous reforms and policies were not sufficient to reduce the country MMR according to MDG Five. ^[footnote]	This is more of an interpretation. . . . I know the goal number from previous reports. This is very far from the goal . . . It does, to some extent, become my idea.

	Matching source text	Paraphrased text	Writer's self-report
Oral health	Oral health is a state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay and tooth loss, and other dis-eases and disorders that affect the oral cavity. (from XXX, 2013)	Oral health is defined as a state of being free from diseases that affect oral cavity , including dental caries (XXX, 2013).	I thought it's important that I don't change too much of the original definition. . . . Cause my focus will be on dental caries. It's the same as "tooth decay."
Descriptive codes	Descriptive codes are similar to manifest codes: they reflect themes or patterns that are obvious on the surface or are stated directly by research subjects. (from XXX, 2010)	With descriptive codes , it is able to answer what, where, and how types of questions with demographic and geographic features (XXX, 2010).	I just transferred the meaning . . . to I feel the simple way to describe what descriptive codes are. . . . because I have put it into the context of [analyzing] the data I collected.
Products of sequencing	Current next-generation sequencing (NGS) platforms adopt two types of sequencing mechanisms: by synthesis or by ligation. (from XXX et al., 2013)	Two main strategies have been employed to detect the products of sequencing reactions which can be referred to as sequencing-by-synthesis and sequencing-by-ligatio ⁿ . ^[footnote]	I kept . . . [the] key-words. . . . It's more of a simple concept so it is very easy to just use my own words . . . I would say this shows whether I understand it better.

*Words translated from Chinese are italicized; identical words in the paraphrased text and its matching source text are in bold; and key words in the writer's comments are also in bold.

Appendix B

Coding Scheme and Examples of Interview Comments

Categories	Definition	Example of comments*
Acceptable	There is a connection between the source and the paraphrase.	<i>I think this is acceptable. There is no distortion of the original meaning. (Oral health, Sara)</i>
Not acceptable	There is a misinterpretation or little connection between the source and the paraphrase.	It's wrong and it doesn't make sense. That's misinterpretation. (<i>Communication modes</i> , Sedge)
Other comments or suggestions	Needs more explanation	<i>It is OK with some explanation. . . . The student needs to cite the original source and then explain his own view. (Maternal mortality, Madge)</i>
	Difficult to judge	I can't give any comments on this one because I don't understand the content of the source text. (<i>Feature extraction</i> , Ann)
	Inappropriate rewording	<i>The two mechanisms are paraphrased as two strategies. I am not sure if it is appropriate. (Products of sequencing, Madge)</i>
	Problematic citation use	It sounds like it [the source text] did coin the phrase "first love," in which case then this [the student's paraphrase] is a plagiarism in the sense that it is taking the idea of someone without an attribution. (<i>Early love</i> , Lear)

	Categories	Definition	Example of comments*
Other comments or suggestions	Too much copying or patch writing.	There is too much copying or patch writing.	This is very close. I mean the same words. . . . That's disturbing. (<i>Communication modes</i> , Sever)

*Comments translated from Chinese are italicized.