A CROSS-DISCIPLINARY ANALYSIS OF CODE GLOSSES IN PAKISTANI ACADEMIC WRITING

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ABSTRACT- *Code glosses not only help to create a coherent and organized text but also play a crucial role in mediating reader's and writer's relationship. The current study attempted to explore the frequency and functions of code glosses in the academic writing of Pakistani Postgraduate Students. The introduction section of 235 research dissertations from the faculties of humanities, social sciences and sciences were examined. Findings revealed that academic writing of these disciplines differ in their oratorical strategies using code glosses, demonstrating the functions of exemplification and reformulation in academic discourse. This study has shown variation across different disciplines in using code glosses. This study made a contribution for the analysis of long text genre particularly doctoral and M.Phil theses.*
Key Words: Metadiscourse, code glosses, reformulation and exemplification.

INTRODUCTION

A great deal of research has exposed an increasing interest towards the interactional components of academic writing in various fields of knowledge that is generated by metadiscourse elements. Metadiscourse is used as a cover term to refer a diverse array of devices which enables the readers to understand and organize the text in a way desired by the author. Code glosses as metadiscourse devices are used to elaborate the text or what has been said by the author. It helps to clarify, restate and exemplify the propositional content of any written or spoken discourse. Code glosses indicate writer's expectations regarding the extent to which the readers would understand his/her writings.

Conceptualizing Code Glosses

The term code glosses was first used by the researcher in [1] in literature of metadiscourse. Code glosses facilitate in creating a coherent and reader friendly academic writing. These devices rephrase, elucidate and clarify the sense of usage [1]. Code glosses are referred as "metalinguistic operation of clarification" [2]. The researcher in [3] stated that code glosses "explain, rephrase, or exemplify textual material." Such small acts of the propositional embellishments facilitate the main points of the writer in written discourse. There are various subcategories of code glosses: parentheses, punctuation devices, reformulators, and exemplifiers [4].

Code Glosses and Metadiscourse

This term is extensively used in the field of discourse analysis. The researcher in [5] denotes metadiscourse as the writer's incursion in the text. The function of metadiscourse is to indicate the author's communicative goal in representing propositional content. Different writers have classified metadiscourse into different taxonomies according to its functions. Due to its diversified functions, metadiscourse is considered a pragmatic and oratorical phenomenon. The research scholars have elaborated different interpretations of metadiscourse. According to the scholar in [1], metadiscourse does not add anything to the propositional content however it only indicates the presence of the writer. Though, these categories were inexplicable and pragmatically overlapping. The researcher in [1] suggested two components of metadiscourse: textual and interpersonal and classified code glosses as the subcategory of textual metadiscourse. His taxonomy of metadiscourse has paved the way towards many investigations in this field. His terminologies have been adopted by the succeeding researchers. Code glosses are vital components of framework of metadiscourse [7]. The model of metadiscourse presented by the scholar in [7] consists of two categories: interactional and interactive. Interactional component deals with the ways writers communicate with the readers by commenting on their message. These resources invite the readers for their contribution in the discourse by alerting them to the author's perspective towards both propositional information and readers themselves. The writer engages readers by inviting them to interact with the unfolding text. These resources include: boosters, hedges, attitude markers, and engagement and self-mentioning markers.

Classification of Interactive Metadiscourse [1]

Category	Function
Transition markers	contain a variety of devices as conjunctions, additives, contrastive and inferential markers to interpret the pragmatic links of clauses in the discourse.
Frame markers	refer to the boundaries of the text and to organize the arguments in the discourse. It can be used for four functions: to sequence, label, announce the goals of discourse and signal shifts of topic.
Endophoric markers	express information about other sections of the content for example "noted above", "see Fig", etc.
Evidentials	provide information from other manuscripts such as "according to X", "Z states", etc.
Code glosses	provide additional information through explaining and elucidating like "namely", "e.g.", "in other words", etc.

Interactive dimension is used for the organization and coherence of text. It shows writer's awareness about the interests, knowledge, oratorical expectations and understanding abilities of the audience. The writer creates a piece of writing to placate the needs of the audience/readers. This dimension is further divided into five subcategories; however the one which is the center of this paper is "code glosses."

Code glosses are helpful for the creation of a reader friendly and organized text which helps to clarify the communicative purpose of author [4].

The researchers investigated the usage of these elaboration signals in the research articles of Spanish, Catalan and English. The findings revealed significant differences in the frequency and use of code glosses cross-linguistically. The research exhibited that English writers use reformulation markers for the purpose of expansion to insert further information in the content of text [7].

Functions of Code Glosses: Code glosses highlight those points where reader requires the guidance for interpretation of the text. They serve the purpose of elaboration, specificity, clarification and exemplification. The purpose of elaboration further serves two main functions: reformulation and exemplification.The function of reformulation is reinforcement, in which the second unit reiterates the first one in a different way. In spoken discourse, it is often called "repairs. "Such links are often indicted parenthetically or lexically. According to the scholar in [4], reformulation is a purposeful activity demonstrating that the writer is trying to attain specific oratorical effects. In reformulation, any thought is restated to facilitate the process of understanding and interpretation for the audience.

Exemplification is a process in which the example of the first unit is given in the second part. Exemplification denotes larger discourse units including case studies. Examples can be presented by using abbreviations, parentheses and linking adverbials. It is a frequent feature of academic discourse. Such exemplification markers include an example of, for stance, like, say, e.g., and for instance.

Unluckily a few research studies have been conducted in the field of code glosses in written texts, but none have investigated the functions and linguistic realizations of these devices in Pakistani academic writings. Realizing the importance of code glosses, this paper endeavors to address this neglected area and investigates the frequency and functions of code glosses in the research dissertations of Pakistani Postgraduate L2 learners.

Research Questions
What is the frequency and distribution of code glosses in the Pakistani research dissertations of three disciplines: Social Sciences, Humanities and Sciences?
What use do Pakistani researchers make of code glosses in research dissertations of three disciplines: Social Sciences, Humanities and Sciences?

METHODOLOGY
The corpus used in this research comprised of introduction section of 235 research dissertations of Ph.D and M.phil level. These research dissertations were selected from three major faculties: social sciences, humanities and sciences. The faculty of social science includes sociology, psychology, education, international relations and economics whereas humanities encompass mass communication, English, history, gender studies and communication studies. The research theses of science included the disciplines of chemistry, bio

chemistry, earth sciences, zoology, pharmacy and botany. Such a large corpus was selected to compare the oratorical practices and academic knowledge across various disciplines.

Table 2

No. of Words in the three sections of CorporaIntroduction of Science	Introduction of Social Science	Introduction of Humanities	Total
212683	332571	480722	1025976

PROCEDURE
The current study employed a framework developed by the scholar in [4] to analyze the categories of code glosses. A list of 29 code glosses from his study, "Applying a Gloss: Exemplifying and Reformulating in Academic Discourse" was used to draw the code glosses occurring frequently in the academic writings of Pakistani researchers. The researcher explored the frequency and functions of code glosses. The corpus was analyzed into two stages. In the first phase, the frequencies of code glosses listed by the scholar in [6] were searched from the corpora through concordance tool of antconc software. In the second phase, all the instances of code glosses were manually analyzed in its context in to confirm they functioned as reformulation or exemplification statements in academic writing. Functions of reformulation and exemplification were used to analyze the code glosses in the corpora [4].

RESULTS AND DISCUSSIONS
The study attempted to investigate whether there is any difference in the use of code glosses in the introduction section of three disciplines i.e. Sciences, social sciences and humanities.Table.1 summarizes the raw frequencies of code glosses found in the corpus.
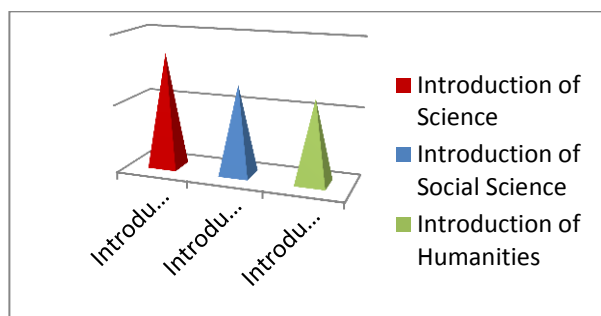
Table.3: Total raw frequencies of Code Glosses for Reformulation

Code Glosses	Introduction of Science	Introduction of Social Science	Introduction of Humanities
i.e.	0.37%	0.73%	0.43%
in particular	0.04%	0.14%	0.11%
particularly	0.22%	0.50%	0.40%
that is	0.38%	0.80%	0.73%
especially	0.46%	0.71%	0.64%
in other words	0.02%	0.16%	0.096%
namely	0.06%	0.11%	0.05%
specifically	0.04%	0.16%	0.006%
or	4.62%	8.45%	0.64%
which/this means	0.02%	4.59%	0.41%
others	0.10%	1.13%	0.10%
Punctuation Devices	91.18%	76.99%	95.5%
Parentheses	2.44%	5.46%	0.78%

Table.1 indicated that authors of research theses employed code glosses of reformulation and exemplification in all hard and soft disciplines.

Table.4 % of Code Glosses for Exemplification

Code Glosses	Introduction of Science	Introduction of Social Science	Introduction of Humanities
Such as	40%	20.4%	19.52%
For example	7.75%	8.06%	8.12%
e.g.	5.66 %	10.96%	4.74%
An example of	0.12%	0.27%	0.36%
Like	41.25%	31.52%	41.60%
For instance	1.35%	3.89%	2.46%
say	0.61%	2.35%	7.39%
Others	2.33%	22.46%	15.78%

Figure.1 Comparisons of Code Glosses in Corpora

Table.5 Code glosses (Per 10,000)

Function	Introduction of Science	Introduction of Social Science	Introduction of Humanities	Total
Reformulations	848.35	655.55	604.11	2108.01
Exemplifications	38.17	33.19	22.79	94.15
Total	886.52	688.74	626.9	

Table.3 presents the frequencies of code glosses per 10,000 found in the corpus. The length of the introduction section of theses varies that is why data is normalized by adjusting the raw frequency of code glosses of reformulatio and exemplification per 10,000 words. This table indicates the higher frequency of reformulation and exemplification markers in the corpus of Science than in the corpus of social sciences and humanities. These preferences of researchers show disciplinary variations regarding the use of code glosses. The writers of hard and soft academic disciplines do not project the reality in the same manner. The result of this study coincides with the scholar in [8]'s study on rhetoric analysis of code glosses in which more reformulation markers were found in the hard fields of knowledge. It may be interpreted that academic genre of Science is "writer responsible" language as compared with other disciplines of Social Sciences and Humanities.

The current study also investigated the discourse functions of code glosses in the research theses of all three sections of corpora .For this purpose, first fifty examples of each section were examined qualitatively to see the functions of these markers.

Reformulation.

 In reformulation, two utterances express the single idea in a different way. The frequency of reformulation markers (as per 10,000) is 848.35 in the hard fields of knowledge (Sciences). The scholar in [4] described functions of reformulation as: "expansion and reduction." Expansion is further divided into two categories i.e. explanation and implication. For giving explanations, the use of "***that is***" is very frequent in all three sections of corpora. Reduction plays the role of paraphrasing as well as specification. A few examples from the data are given below:

Examples of explanation and implication in Academic Corpora

- Explanation: John Keats called it "negative capability": ***that is*** when a man is capable of being in uncertainties, mysteries, doubts, without any irritable reaching after fact & reason. (English Intro.txt)
- Implication: The working electrode decides potential range for electro active species (positive or negative) to produce electron rich or electron deficient centers ***which means*** substances are oxidized or reduced respectively, in the particular potential window of the working electrode(Chemistry Intro.txt)

    Reduction: Reduction is the third category of reformulations. It is used to delimit the meaning of what has been earlier said. This purpose can be realized by using paraphrase or specification. The following case can be taken as examples of this function.
- Antioxidants like lycopene and ascorbic acid can be destroyed when stored for long time ***or*** cooked for long duration. (Biochemistry Intro.txt)

Exemplification: Examples are the major source by which the authors can involve their audience. The writers incite their readers to identify the occurrences through their concrete experience. The frequency of exemplification markers varies in different disciplines of hard and soft fields. However these markers occurred more frequently in the introduction section of pure sciences. The most frequent exemplification element is *like* employed in the corpus of humanities.

Media channels are all those means of transmitting messages they involve a mass medium, ***such as*** radio, television, newspapers, and so on. (Communication Intro.txt)

- 	Among the regional countries ***like*** India, Sri Lanka, Bangladesh, Nepal, and China… (Communication Intro.txt)

CONCLUSION

The results of the current study suggested that the use of code glosses in academic genre of research theses is controlled by the conventions of these disciplines. There are significant differences in the use of these markers among three introduction sections of the disciplines of humanities, sciences and social sciences. Results revealed that the writers use more code glosses in the discipline of science than in humanities and social sciences. The researchers employ more exemplification and reformulation markers in Sciences for making interpretations and explanations more explicit and

specific. There are obvious disciplinary differences in use of these metadiscourse elements in the hard and soft fields of knowledge. The knowledge of metadiscourse features enables the researchers to meet the requirements of readers.

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