ISSN Online: 3006-4708
ISSN Print: 3006-4694

SOCIAL SCIENCE REVIEW ARCHIVES
https://policyjournalofms.com

Logical Metaphors in Persuasive Texts of ESOL Undergraduates

Dr. Muhammad Asif Gul[1], Riaz Ahmad[2]

[1] Associate Professor, Northern University Nowshera, Pakistan. Email: asif.gul@northern.edu.pk
[2] Lecturer, Riphah Int'l University Islamabad, Pakistan. Email: arghubtarar@gmail.com

DOI: https://doi.org/10.70670/sra.v3i3.1342

Abstract

In Systemic Functional Linguistics (SFL), Logical Metaphors (LM) are among the advanced meaning-making resources to which not only native but also ESOL learners' access determines their success in generating formal persuasive texts. Ontogenetically, ESOL undergraduates show consistent growth in their proficiency to exploit this advanced level linguistic tool for increasing compactness and sophistication in academic argumentative discourse. Hence, we decided to conduct the current study to explore whether the ESOL undergraduates in Pakistan satisfactorily use major kinds of LMs. Benefitting from the concordance tool of the corpus methodology, we worked on a specially built corpus named *NBSFs202* that comprised 81 handwritten essays students in BS final semester, we found that the ESOL learners' repertoire of marked paradigmatic choices has shown slight growth during their academic careers. The study offers insightful cues to English for Academic Purposes (EAP) practitioners and curriculum developers at school, college and university level for training learners to attain advanced academic literacy.

Introduction

Byrnes (2018) attempts to anchor academic writing development in the specific theory of language adopted in SFG. In complete agreement with Martin (1991), the scholar examines the construct that language is always functional. Consequently, no writing development can be imagined if learners' ability for functional variability does not gradually expand because absence or weakness in this ability creates increased difficulty to fulfil demands of diverse variety of texts specific to registers and genres popular in their university study. In other words, the growth of linguistic resources itself necessarily expands learners' composing abilities for functionally appropriate texts, for texts are always driven by social contexts.

Like other advocates of SFL, Byrnes posits that social context commonly called context of situation is linked to a particular language form represented in specific 'wordings'; these wordings signals towards the suggestion that individual and group language use are clearly functional. Nonetheless, the proponents of this theory do not stop here; rather, they claim that language in its fundamental organization of grammatical resources is completely functional. Furthermore, the scholar endorses Matthiessen (2009) and asserts that language in its totality acts as an essential dynamic system that works through adaptation to changing historical situations and ideological contexts. All humans highly depend on this valuable system because it occupies central position as the most efficient meaning-making resource.

Byrnes (2019) declares that three broad meta-functions which specifically characterize the

functional view of language and named by Halliday as ideational — how is reality perceived, interpersonal — how humans interact with reality, and textual — how relations among text parts are maintained — have close association with three contextual variables of global nature which are known as FIELD — how with language use, humans construe their experience in the world semantically; TENOR — how human interactants use language for enactment of their particular social roles and establishment as well as maintenance of various types of social relations with one another and MODE — how in spoken and written language, diversity in information flow is controlled through adopting diverse textual features so that meaning construal and enactment are in accordance with the norms appropriate to the text category.

This exploration into the necessary link between variables of social situations and variables of language choice brings us to the central construct of different registers which views language choices to be functionally controlled within contours set by three meta-functions discussed above. It is important to observe that, even though 'registers' and actual texts produced by language users are not quite same, yet the indispensable impact of the first on the second is not easy to ignore (Byrnes, 2018). The discussion outlined in the previous lines becomes relevant to this study on the presumption of SFL that university undergraduates' knowledge of GM determines how successfully they can maintain necessary link between meta-functions of language and variables of social contexts.

Logical Metaphor (LM) is a key indicator of students' language development during their academic journey from the early years to adolescence and beyond. In the adults' written discourse, there is a complex regression of clauses to nominal groups. Moreover, there is an intimate relationship between an appropriate handling of LM and the construction of technicality in knowledge representation. It plays an active role in the learners' development of argumentation, "providing resources for the accumulation, compacting, foregrounding and backgrounding of information and evidence so that the argument can move forward" (Christie and Derewianka, 2008, p. 25). It is not a stylistic ornamentation for sophistication in meaning; rather, it is the necessary tool which equips learners at their advanced careers to construe and reason about "experience in abstract, logically developed terms" (Christie and Derewianka, 2008, p. 25), and provides them with potential power to succeed in handling nuances of cohesion, conciseness and formality.

Since formal learning is fundamentally "a linguistic process" (Webster, 2016, p. 90), other educational disciplines can greatly benefit from the findings and principles of this study. Moreover, the analysis of LM control can lead linguistic scholars to exploit not only the broader notion of 'field' but also the notions of 'tenor' and 'mode' as well. The revelation of dominant trends in some categories of LM and lack of maturity in handling others fulfils a pedagogical necessity of suggesting some models in adult language development. This study can be a springboard for many further studies at other levels and offers a starting point. The issue of language complexity while designing textbooks for learners can be resolved with the research modelled on this study in which language complexity is determined by the frequency and variation of LM. Analyses of frequency, variation, and metaphorical control in the BS English learners' academic writing in their final phase of education may demonstrate their nuanced development that can inform wide-ranging pedagogical revisions. While this study is a step towards identifying, classifying, quantifying and describing a phenomenon, it is hoped that it will articulate some understanding of the phenomenon.

Problem Statement

Logical Metaphor is included in the important linguistic elements that not only enhance conciseness at phrase level but also result in smooth textual organization at clause level. Therefore, for generating formal academic persuasive discourse, ESOL undergraduates, since they are at advanced level of their educational career, are required to masterfully exploit the meaning-potential of all the major categories of this essential incongruent meaning-making resource (Manerko, 2019; Ahmad & Gul, 2025). Otherwise, if they rely more on congruent expressions, their academic discourse,

deficient in technicality and literacy (Gul, 2023; Gul, Fatima, & Faraz, 2024; Gul, Khan, & Ahmad, 2024), will sound more conversational and unprofessional.

Research Questions

1. What categories of Logical Metaphor do the ESOL undergraduates employ when they produce persuasive texts?
2. How frequently do the ESOL undergraduates employ different types of Logical Metaphors in their persuasive texts?

Literature Review

In every language, the expression of target meaning can be encoded in two ways which are termed congruent and non-congruent ways of encoding meaning. The first one is declared to be natural and the second one is termed as grammatical metaphor. Grammatical metaphor involves a substitution of either a grammatical class or a grammatical structure with another. Halliday introduced the term grammatical metaphor which refers to such transference of meaning as necessitates transference of congruent structures to metaphorical forms which exist as choices in grammar. Congruent structures reflect people's typical ways of construing experience and in them, nouns and verbs represent participants and actions or processes, respectively. Furthermore, they use prepositional phrases or adverbs for representing circumstances and with the use of conjunctions, relations among processes are expressed. However, language development in the adolescent age effectuates a shift in people's manipulation of these original relations and they often not only change verbs or adjectives into nouns to represent participants but also turn clauses into nominals. These changed forms are called grammatical metaphors (Xue-feng, 2010).

Following the views expressed in Halliday (1985b) — where he introduced GM, Martin (1993) further fleshes out the notion. To him, GM is a process of multiply-coding meanings at the grammatical level. The argument relevant to understanding of the term is that majority of clauses, especially in writing, realize both a literal meaning and one or more than one other meanings, and for a full interpretation, several readings of the clause are needed in which starting from the literal reading, other meaning(s) in relation to the literal one are discovered. On further reading, the literal interpretation of a clause which has GM in it can be unpacked and a 'transferred' meaning of figurative nature can be derived. GM not only changes the experiential structure but also alters textual organization. Defending Halliday's analogy of traditional notion of lexical metaphor on which he based his definition of GM, the linguist maintains that as the understanding of lexical metaphor entails more than one reading, clauses having GM in them must also be interpreted on another level different from what it actually says. What a metaphor—whether it is lexical or grammatical—critically requires is "the literal plus (or perhaps better times) the transferred reading" (Halliday M. , 1993, p. 237). The requirement of multiple readings raises the issue of what can be considered a base line and its reading can be taken as literal. While focusing on lexical metaphors found in the given field, this creates no problem because the literal meaning corresponds to the word's 'basic' meaning accepted in that field. So, for the derivation of its transferred readings, the word's collocational and/or colligational context are always helpful. Practically, with the use of dictionaries, the basic meaning of the word being metaphorically can be determined. However, to mark a base line for GM remains unclear. Martin agrees with Halliday that the children's spoken language during their pre-pubescent age can be taken as a base line and transferred readings on it give metaphorical meanings. Describing the general characteristics of this language, the scholar asserts that it is the language used by speakers when they spontaneously express their emotions; when they feel they are not being understood. Moreover, this language has derivationally simpler morphology, a higher grammatical intricacy, and a lower lexical density. With this base line, it is easy to distinguish two types of meaning realizations

both of which differ from each other in their lexico-grammar. One is called congruent and the other incongruent. In a congruent meaning realization, the relation of grammar and semantic categories is natural: nominals realize people, places and things, verbal groups realize actions, conjunctions realize logical relations of temporal and causal nature, and so on. The important point raised by the scholar at this stage is that such a language requires no differentiation between semantics and grammar because in that language there is no stratification and relationship between semantics and grammar is always straight and simple. However, in a stratified language of adults, specially the language in written discourse, unnatural relationships between grammar and semantics do appear as in it nouns can realize actions, and even verbs ca be used to realize logical relations. In this discourse, almost all meanings can be realized in more than one way (Martin J. R., 1993).

Research Methodology

This corpus-assisted case study follows the approach of a mixed- method in which qualitative and quantitative methods are combined to carry out the research. For answering the first and the second research questions, the researcher has performed quantitative analysis of the entire corpus by creation of concordance list for each instance of LM. Situated in the interdisciplinary field of applied linguistics (AL), this study aims to uncover undergraduate learners' advanced proficiency in the handling of LM during the composition of academic discourse and investigate the major types of problems which demand necessary pedagogic intervention. From a wide range of aims of AL, the researcher' focus is on learners' empowerment through addressing problems in world-wide academic communication.

Data Analysis Procedure

First a list of commonly used LMs from all the four subtypes was created. After the creation of the list, every instance of the key word used as a logical metaphor was inserted into the corpus-software; thus a complete concordance for each item was obtained. Concordances produced by the corpus software were again manually read. Deletion of instances in which the target lexical item was not being used GM was central step of this second stage. The resultant concordances of the chosen items which appeared as LM provided the necessary foundation for a detailed quantitative analysis. In the third stage, the researcher calculated frequency of every selected category, and later compared these recorded frequencies on different criteria. These comparisons were used for interpretation of data.

Data Analysis

The researcher selected Logical Metaphor for this study. Several categories of this are found in literature of SFL, but for convenience of analysis, only four following subtypes (as shown in Table 3.1) were selected.

The names of types selected from logical metaphor are:

i. Relator as Thing
ii. Relator as Process
iii. Relator as Quality
iv. Relator as Circumstance.

Statistics of Logical Metaphors

As discussed in the chapter on methodology, only four types of logical metaphors were selected for this study. While the number of instances for each category of experiential metaphor were traced manually in the twenty essays and identification was accompanied by enumeration, this step was only in one category of logical metaphor, that is *Realtor as Process*, though its list was also extended with the entry of a few more instances selected from the literature. Instances of all other three categories were selected from (Halliday & Matthiessen, 2014) and (Martin & Rose, 2007). Thus, here the

number of instances were of little concern. The thing that mattered was the mean frequency of each category. Following the same pattern as was used in experiential metaphors, when the sum of total frequencies was calculated, it was found that the highest sum of frequencies was of *Relator as Circumstance* which was 141 forming 44% of the four categories chosen for the study. The category of *Relator as Process* had second highest sum which was 116 and formed 37 % of the total categories of the logical metaphors. The least sum among these categories was *Relator as Quality* with a total of 21, and its percentage in the complete set of four categories was merely 7. The third highest sum was of *Relator as Thing* with a total of 39, and its percentage in the complete set of four categories was merely 12. The gap between the highest and second highest stood at 7 %, and the second and third highest differed by 25 %, a huge gap.

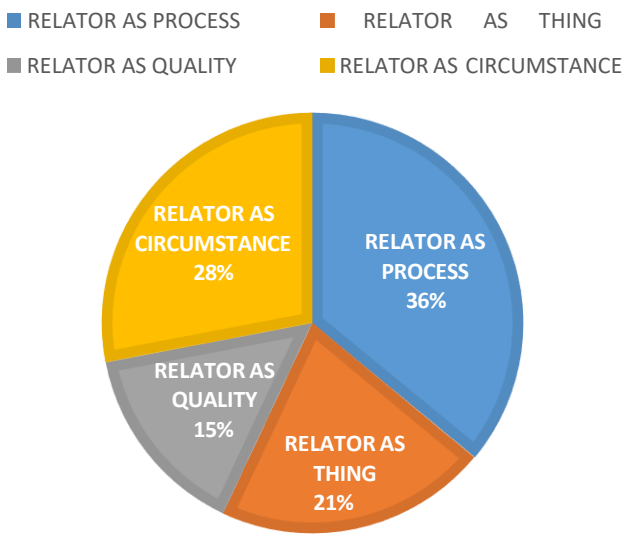
Comparison among Total No. of Instances

Contrary to the total dependence on identification in the manually read essays, the number of instances for each category were also selected from the literature. Thus, the total number of instances for *Relator as Process* category was highest, and they were seventeen (92). The number for the category of *Relator as Circumstance* was next to it with a tally of thirteen (13). The number for third highest category *Relator as Thing* was ten (10). The category of *Relator as Quality* stood lowest, and its total instances were seven (7). Their ratios in descending orders were 36 %, 28 %, 21 % and 15 %.

Table.1: Comparison among Total No. of Instances

Relator as Process		Relator as Circumstance		Relator as Thing		Relator as Quality	
Instances	%	Instances	%	Instances	%	Instances	%
17	36	13	28	10	21	7	15

Fig. 4.6 Comparison Among Total No. Of Instances



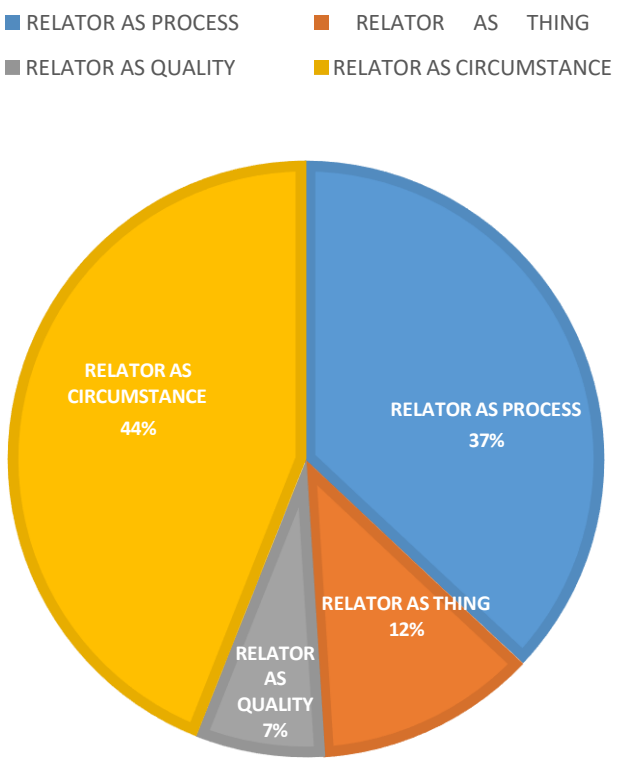
Comparison among Total Frequencies of Each Category

Following the same pattern of maximum number of instances in the text and second highest number of instances, the positions of highest and second

Table.2: Comparison among Total Frequencies of each Category

Relator as Circumstance		Relator as Process		Relator as Thing		Relator as Quality	
Sum	%	Sum	%	Sum	%	Sum	%
141	44	116	37	39	12	21	7

Fig. 4.7 Comparison Among Total Frequencies Of Each Category



highest mean frequency were occupied by the category of *Relator as Process* and *Relator as Circumstance*, respectively. The number of instances in the first category was 141forming 44 % in the whole, and the sum of frequencies for the second was 116 which formed 37 %. The gap in the sum was significantly high as they differed by 25 frequencies. *Relator as Quality* had lowest sum which was 21 and formed only 7 %; the third position with 39 as a sum of frequencies forming 12 % was occupied by *Relator as Thing*.

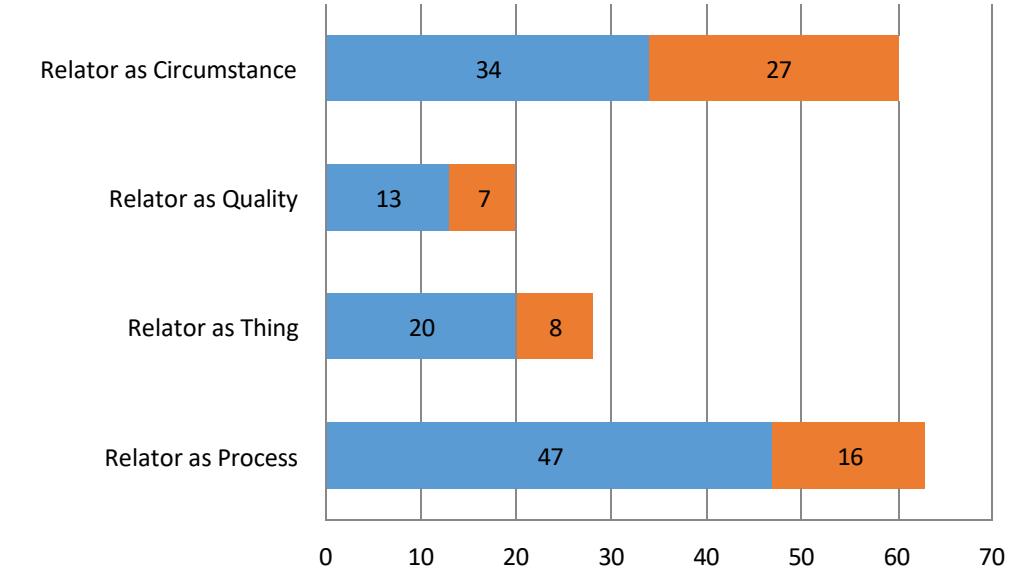
Comparison between Highest and Second Highest Frequency

When the highest and the second highest frequency was traced in every category, it was found that in *Relator as Process*, the highest frequency was 47 and the second highest was only 16, thus there was a gap of 29 between them.

Table .3: Comparison among Highest and Second Highest Frequencies

Relator as Process			Relator as Circumstance			Relator as Thing			Relator as Quality		
Highest	2nd Highest	Gap	Highest	2nd Highest	Gap	Highest	2nd Highest	Gap	Highest	2nd Highest	Gap
47	16	31	34	27	7	20	8	12	13	7	6

Fig. 4.8 Comparison among Highest and Second Highest Frequencies



	Relator as Process	Relator as Thing	Relator as Quality	Relator as Circumstance
Highest Frequency	47	20	13	34
Second Highest Frequency	16	8	7	27
Column1				

In *Relator as Circumstance* was found the second highest frequency of all categories which was 34, and its second highest tall was 27, significantly above the second highest in *Relator as Process*. However, the highest values in these categories had a significant gap of 13. In *Relator as Thing* Quality the highest frequency was 20, seven points below the second highest in *Relator as Circumstance*. The second highest in this was far low and it was only 8. Relator as Quality had the lowest number in the highest frequencies, and the number was 13. The second highest in this was 7, close to the second highest in its nearest neighbour above it. Thus, the pattern shown in highest is 47, 34, 20 and 13, almost consistent and regular with Realtor as Process at the top and Realtor as Quality at the Bottom. When the pattern in the second highest frequency in these categories was

observed — 27, 16, 8 and 7. Here the lead was taken by *Relator as Circumstance*, but *Relator as Quality* was still at the bottom. When the sum of these two quantities for these categories was calculated, the pattern shown was like this: 63, 61, 28, 20; again, *Relator as Process* stood first closely followed by *Relator as Circumstance.* However, the other categories lagged far behind the leading ones, though they were also close to each other.

Comparison among Five Highest Frequencies of Each Category and their Means

When the mean of five highest frequencies was calculated, the pattern for two leading categories changed. *Relator as Circumstance* grabbed the highest

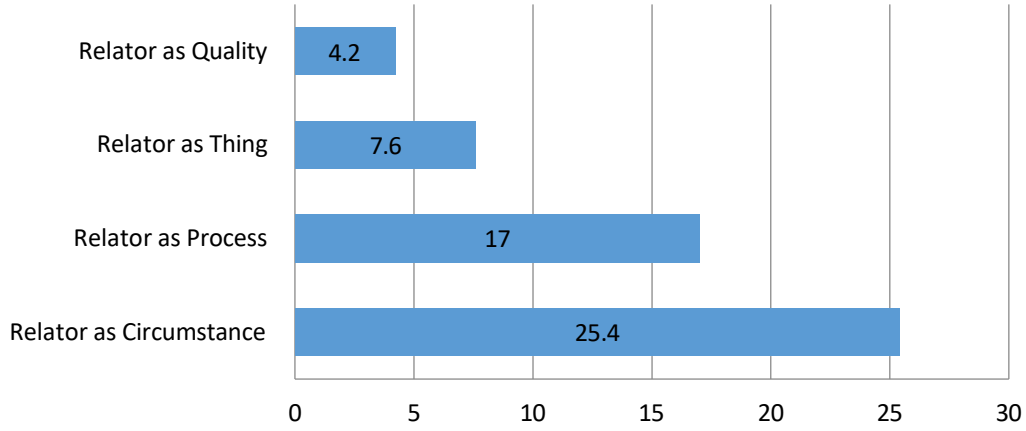
Table .4: Highest Frequencies

Relator as Process	Relator as Thing	Relator as Quality	Relator as Circumstance
H. F.	H. F.	H. F.	H. F.
47	20	13	34
16	8	7	27
9	6	1	23
7	2	0	22
6	2	0	21
Total=85	**Total=38**	**Total=21**	**Total=127**

Table .5: Comparison among Means of Five Highest Frequencies:

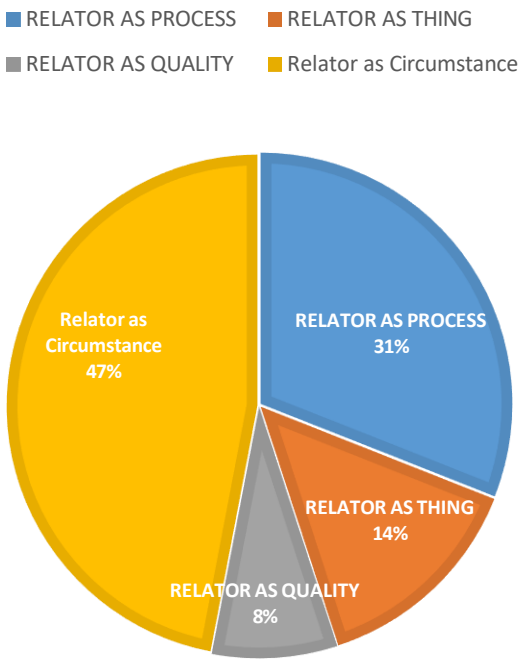
Relator as Circumstance			Relator as Process			Relator as Thing			Relator as Quality		
Sum	M.F.	%	Sum	M.F.	%	Sum	M.F.	%	Sum	M.F.	%
127	25.4	47%	85	17	31	38	7.6	14	21	4.2	8

Fig. 4.9 Comparison among Means of Five Highest Frequencies



	Relator as Circumstance	Relator as Process	Relator as Thing	Relator as Quality
M.F	25.4	17	7.6	4.2
Column1				
Column2				

Fig. 4.10 Comparison among Means of Five Highest Frequencies



position with a mean of 25.4 and percentage of 47; *Relator as Process* followed *Relator as Circumstance,* and its mean was 17, eight points below its top neighbour, which was 31 % of the all the categories used by the learners. The third highest and the lowest categories saw no change in their

means, one had a mean of 7.8 and other 4.4, and their respective percentages were 14 and 8. So, neither in gap between top neighbours nor in bottom neighbour was significantly wide. However, the top two and the two at the bottom had a considerably high gap between them — 47 %, 31 %, 14 % and 8 %.

Discussion on Statistics of Logical Metaphors

The description of total instances, followed by analysis of sum of their total frequencies signaled towards the popularity of Relator as Process among learners. The same picture was visible when the highest and the second highest frequencies were compared, but the gap between the popularity of *Relator as Process* and *Relator as Circumstances* saw a clear decrease. However, no change was observable in the position of other two categories. After this, when the comparison among their means calculated on the basis of five highest frequencies was made, it was evident that the categories which had secured first two positions in popularity in the previous analyses were still dominant. Nonetheless, the category of most popular changed from *Relator as Process* to *Relator as Circumstance*. The other two categories lagged far behind as they did in the earlier analysis. Even in the later comparison among all categories of IGM, it was observed that *Relator as Process* and *Relator as Circumstance* were the most preferred categories after Process as Thing. The categories marked least favourable earlier saw no change in their popularity position, and these were the least frequently used categories of IGM. The important point in this description is despite that *Relator as Process* was used by majority of learners, they were not using a wide variety of this category with similar frequencies; they were repeatedly using a common *Relator as Process* verb '*make'* (it is highest in frequency with a tally of 47 in a total of 116), though the use of another verb '*leads'* was a sure sign of the learners' inclination to the construction of metaphorical meanings. Another technical point is that in *Relator as Circumstance* category also, there was noticeable absence of those structures which are clearly marked in advanced academic discourse; some were completely missing, and others had very low frequencies. This indicates that in spites of being most popular among students, there was large capacity for learners' improvement, even in this most popular category. The least frequently used categories also demand immediate attention of instructors who can provide maximum exposure to their learners through the texts which have diversity in such structures, and thus can enable them to experiment these technical items of academic discourse. The means calculated on the basis of sum of mean frequencies and the relative percentages associated with number of instances of each type of logical metaphor demonstrates that learners have shown their highest preference to *Relator as Circumstance*. Not only in total number of instances but also in their frequencies, arising trend is clearly visible. Even a small number of seventeen (17) instances have been used hundred and sixteen times by different learners. However, the critical observer can easily notice that the learners usually relied on simple verbs like *show*, *create* and *make* — there are forty-seven (47) occurrences of *make*. This clearly hints that the learners' repertoire for even this popular category is limited; there has not yet been the growth and development required to attain advanced proficiency. The second highest category in the occurrence of highest number of instances but also in the presence of greatest mean frequency, the gerund nouns and the gerundive nominalization have a significant contribution. It is visible that the learners' dependence on this type cannot be interpreted as an important sign of their vast repertoire of this category of experiential metaphor. Another important point that offers contradictory evidentiary support to the learner's highest knowledge of this category is a wide gap between total number of words of the entire corpus and the total tally of the category. In a corpus of about thirty thousand words, there are found only about six hundred examples of this nominalization which also includes gerunds. Therefore, it is not hard to infer that the learners' paradigmatic repertoire of experiential metaphor has not reached the apparently satisfactory level. The other category of nominalization, *Quality to Thing*, instead of being closer to the first type, falls far behind because the total instances traced in the twenty manually read essays

are only about three hundred, a sheer half of the first. This data unambiguously signals towards the learners' insufficient knowledge of this important tool of academic writing. Since the complete absence of some categories or some elements of a category show limitation in the paradigmatic choices and create monotony and ordinariness in the written discourse, considerable increase in the use of these technical elements complement the learners' speedy development in the employment of formal register where coherence and cohesion are maintained with these elements. The findings are convergent with the results about Chinese university students' use of LMs reported in Cassi L. (2013; 2015; 2016a; 2016b).

Conclusion

The study of LMs in persuasive texts of ESOL undergraduates was an insightful experience that revealed several gaps in the sample's ability to masterfully exploit the grammatical resources of incongruent expressions built on different categories of LMs. The inclusion of explicit instruction on the use of this linguistic tool in the course design and arranging pedagogical interventions for the learners whose academic writing lacks academic sophistical should be the immediate concern of EAP programs.

References

Byrines, H. (2018). Advanced Proficiency and Performance: Multiple Dimensions and Contexts. In P. A. Malovrh, & A. G. Benati, *The handbook of advanced proficiency in second language acquisition* (pp. 133-156). Hoboken: Wiley Blackwell.

Byrnes, H. (2019). Understanding and Fostering Instructed Second Language Development. In G. Thompson, W. L. Bowche, L. Fontaine, & D. Schönthal, *(Cambridge Handbooks) Geoff Thompson, Wendy L. BowcheThe Cambridge Handbook of Systemic Functional Linguistics* (pp. 512-536). London: Cambridge University Press.

Cassi, L. (2013). An exploration of Chinese EFL learner's deployment of grammatical metaphor: Learning to make academically valued meanings. *Journal of Second Language Writing*, 161–178.

Cassi, L. (2015). Academic Literacy and Grammatical Metaphor: Mapping Development. *TESOL International Journal Vol. 10 Issue 1*, 29-46.

Cassi, L. (2016a). Grammatical metaphor: Distinguishing success. *Journal of English for Academic Purposes*, 109-118.

Cassi, L. (2016b). Nominalization and grammatical metaphor: Elaborating the Theory. *English for Specific Purposes*, 16-29.

Cassi, L. (2018). 'As we all know': Examining Chinese EFL learners' use of interpersonal grammatical metaphor in academic writing. *English for Specific Purposes*, 64–80.

Christie, F., & Derewianka, B. (2008). School discourse. London: Continuum.

Gul, D. M., Fatima, D. N., & Faraz, D. H. (2024, 05 17). Relative Effectiveness Of Writing Activities In The Pakistani ESL Context. *Kurdish Studies, 12*(4), 807-811.

Gul, D. M., Khan, D. R., & Ahmad, R. (2024). The Relative Affordance of Flipped Method in the Pakistani ESL Context. *Remittances Review, 9*(1), 107-121.

Gul, M. A. (2023, 06). A Mismatch between Interests of Students and Content of Grade XI English Textbook. *Global Language Review, 8*(II), 110-126.

Guo, L., Hong, H., Wang, S., & Azlinda, S. (2008). Constructing knowledge viamMetaphor in Singaporean student writing: a corpus-based study. *Proceedings of the 8th international conference of teaching and learning corpora*, (p. 17). Lisbon.

Manerko, L. (2019). From Academic Discourse to the Construal of Scientific Cognition and Knowledge Structures. In Halliday, D. Banks, & E. D. Martino, *Specialized Discourses and Their Readerships* (pp. 69-88). Singapore: Springer.

Webster, M. H. (2016). *Aspects of Language and Learning.* Heidelberg: Springer.
Xue-feng, W. (2010). Grammatical metaphor and its difficulties in application. *US-China Foreign Language*, 29-37.
Ahmad, R., & Gul, D. M. (2025). Experiential Metaphors in Persuasive Texts of ESOL Undergraduates. Social Science Review Archives, 3(2), 2130-2141.