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Promotional Strategy in Computer Science Research Article

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Abstract— Research articles are known to be concise and straight to the point however, studies have shown that promotional strategies have permeated into the writings of the scientific authors. The inclination to use promotional strategies can be attributed to the various research article writing motivations such as for career advancement, for sharing of knowledge, to secure research funding, to meet the requirement of the grant sponsors and to meet the university performance measures. While the native writers have been reported to utilize the promotional strategy as part of their writing strategy, lesser account on such practice has been described in relation to research articles written by non native writers. Broader account on the practice among non native writers is necessary to enhance the teaching of this strategy in the academic writing of ESL writers. This paper is aimed to discuss the use of promotional strategies in the research articles and to examine the finding of promotional strategies found in the introduction section of the research articles in a journal published in Malaysia. Ancient Greek rhetorical concepts of Logos, Ethos, Pathos, Telos and Kairos are employed to explain the basic rhetorical function of the Computer Science research articles and then, two steps in Swales (2004) CARS model are used to analyzed the research articles. Findings showed that the use promotional strategy among the subjects is still limited, suggesting such strategy to be incorporated into the teaching of writing research article.

Keywords- *Non native writers, rhetorical strategies, promotional strategies, academic writing, ESL, English, research article*

I. INTRODUCTION

Research articles are known to be concise and straight to the point however, studies have shown that promotional strategies have permeated into the writings of the scientific

authors. The inclination to use promotional strategies can be contributed to the various research article writing motivations. Globally, academicians write research articles to create knowledge, to build reputation, for recognition and citation, to obtain awards and grants, to compete in terms of work quality and significance, in getting better position [1] and to compete for research grants [2]. Locally, Researchers write journal articles for many reasons such as for sharing of knowledge [3] to secure research funding, for prestige, because their research funders require publication [4],[5], to meet the performance measures [6] and for career advancement [7].

This paper begins with a brief discussion on the related works on the issue. The paper looks into the conception of strategies in the research article by using the Aristotle rhetorical strategies terms of Logos, Ethos, Phatos, Telos and Kairos [8], [9] before moving on to explain the method of the study, the sampling and the analysis. Findings from the study shows that the promotional strategy using “announcement of principle finding” and “stating value addition” is still limited in the particular Malaysian journal articles. The discussion section poses some explanation on the findings and put forward some suggestion on pedagogic implications.

A. Promotional strategies

The various writing motivations could be the reason why promotional strategies have gained some popularity. As summon up in [10] “scientists seem to be promoting their work to a degree never seen before...”. The acts of promoting their work are also presence in research article writing which at a glimpse may appear straight to the point and concise. The promotional strategy which falls in the category of rhetorical persuasion is realized by employing situational appropriately, artfully stylized language and generates commonality between speakers and their audiences. [11]. Studies have shown that promotional strategy has been achieved using a number of

ways especially using “announcement of principle finding” and “stating value addition” as in Swale model [12] [13].

Swales and Najjar [14] emphasized the need for announcement of principle findings in the introduction section of the research articles. The announcement of the principle findings are made in the introduction sections rather than hoping for the chance that the reader would read all the papers up to the result section [13]. The scientific writers also highlight the major findings of the research to establish the research contribution as early as possible [2]. Stating value addition of the research in the introduction sections were also found in RAs in Applied Linguistic discipline [15].

While [12] pointed out that announcement of principle finding and is an optional strategy, studies on Computer Science research articles shown that the strategy is being used widely in many studies on computer Science research articles [13], [16], [17]. While such promotional strategy is commonly practiced and is showing an upward trend among the native writers, the promotional strategy is still new and rarely used amongst the non native writers [2], [18], [19].

B. *Logos, Ethos, Phatos, Telos and Kairos*

This paper looks into the conception of strategies in the research article by using the Aristotle rhetorical strategies terms of Logos, Ethos, Phatos, Telos and Kairos [8], [9]. Ethos means being convincing by the means of the character credibility. [8] In the case of research articles, ethos is convincing by establishing the character of the author as being respectable, credible, worth listening to and as an established authority in the area of the subject. Established scientists in the research area are usually more frequently cited than a new author. This explains the act of co-writing among the new and established researchers. It is possible for student researchers to establish Ethos for their paper by co-writing with the senior researchers and ride on the senior credibility mileage.

“Logos (Logical) means persuading by the use of reasoning” [8]. As for research articles, Logos is highly related to presenting and defending the validity of the research on hand. Authors of scientific research article often achieved this by giving substantial facts on the fundamental theories soundness of methodology [20] or instruments being used, by using statistics and references and by asserting the validity measures and giving plausible interpretation of the results.

The next term is Pathos which refers to “...the qualities of a text... how well an author appeals to an audience’s emotions... refers to an audience’s perspective” [9]. As for the research articles the audience in mind are usually the editor, the reviewers and the fellow scientists. The editors would expect for the articles that have the potential of high readership and high citation, the reviewers would be looking for the proper reasoning and relevance in the subject matter, methodology, results and discussion. As for the fellow scientists, the expectation would be on the contribution to the existing knowledge, soundness of the new ideas and replicability of the study.

“Telos is used to explain the particular purpose or attitude of a speech.” Writers for research articles usually have strong purpose to publish their articles, such as mentioned earlier; to create knowledge, to build reputation, for recognition and citation, to obtain awards and grants, to compete in terms of work quality and significance, to get better position (Hyland, 2003) to compete for research grants [2], to secure research funding, for prestige, because their research funders require publication [4], [5], [6], to meet the performance measures and for career advancement [7].

Kairos on the other hand refers to “the elements that acknowledge and draw support from the particular setting...” [9]. This study interpreted the Kairos in the research articles context as the act of fitting into the wall of knowledge which may be achieved by citing the previous studies, discussing the recent development, keeping relevance to the existing development in the research area, tying the presented study with the previous knowledge, pointing out the research gap and placing how the intended paper contributes to filling in the gap.

II. METHODOLOGY

The research articles chosen for this study uses the journal wise population method as proposed by [21], [16]. Journal wise population method involves selecting articles from a few particular journals rather than from random journals. The justification for choosing a particular journal rather than a random range is because, the group of RA from a particular journal has structural organizations that were more represented, regular and belonged [21]. and to ensure the articles are “generalizable to the target discourse” [22]. For this study, the articles are taken from MJCS 2010 consisting of 15 research articles.

The promotional strategies that are in focused within this paper are the two moves in CARS model [12]. Swales model is chosen because CARS model [12] have been used to analyze the rhetorical structure of RAI in many studies [15], [16], [22], [18], [23], [24], [25], [26], [13]. The model proposes a series of analytical units in form of ‘move’ and ‘step’ which made up a recognizable pattern of structured text and consists of three obligatory moves which can be broken down into steps [27].. While the whole study looks at all the moves and steps in the model, this paper only focus on the two promotional steps in the introduction section.

The promotional steps are “Announcing the principle outcome” and “Stating the value of the present research” taken from Steps 5 and step 6 of Move 3 respectively. Some of the common phrases used for this strategy as illustrated by [16] are “Our results carry over to a...”, “Figure1 summarizes one result in how...” and “we present an efficient”. [13] reported that the writers use phrases such as “Our result show”, “our contribution”.

After the articles are compiled and the introduction sections are cut and paste into tables, each of the sentences in the introduction sections are analyzed by identifying the sentences to the moves and steps in CARS model [12]. For this paper, only the two steps are being focused.

III. FINDINGS

ID	Author		M3S5 Announcing the principle outcome	M3S6 Stating the value of the present research
1	Mustafa, ., Aionon, Zainuddin, Don, Knowles, and Mokhtar, 2010 [28]	Prosodic Analysis And Modeling For Malay Emotional Speech Synthesis	Delayed	Delayed
2	Nandi, and Mandal (2010) [29]	Region based Huffman (RBH) compression technique with code interchange	Delayed	"... a region selection algorithm is proposed to overcome the weakness of the proposed RBH coding technique."
3	Paraman, Ooi, Sha'ameri, and Fujiwara (2010) [30]	A new class of easily testable assignment decision diagrams	Delayed	"...Our method will improve test generation time and test application time as well as fault efficiency."
4	Tahir, Ahmad and Kasirun (2010). [31]	Maintanability dynamics metrics data collection based on aspect-oriented technology	Delayed	Delayed
5	Barajas 2010 [32]	A precise specification for the modelling of collaborations	Delayed	Delayed
6	Gauth and Abdullah 2010 [33]	An empirical evaluation of learner performance in E- learning recommender systems and adaptive hypermedia system	Delayed	"Our proposed e-learning recommender also applied content-based filtering strategy in order to ensure that the recommended learning materials always remain within the current learning concept."
7	Hariharan, Paulraj and Sazali 2010 [34]	Time domain features and probability stic neural network for the detection of vocal fold pathology	Delayed in Conclusion section "The experimental results show that the proposed features give very promising classification accuracy of 98.45% with less computational complexity in feature extraction.	Delayed In Conclusion section The proposed features can be used as additional acoustic indicators and can also be used as a valuable tool for researchers and speech pathologies to detect the vocal fold pathology.
8	Abdul-Kareem , Raviraja, Awadh, Kamaruzaman and Kajindran 2010 [35]	Classification and regression tree in prediction of survival of aids patients	Delayed in Result and Discussion section " We found that CART was able to predict the survival of AIDS with an accuracy of 60-93% based on selected dependent variables, validated using ROC."	Delayed in Conclusion section " The results of this model are significant, this approach experimented and the results obtained in this research could be useful in determining potential treatment methods and monitoring the progress of treatment for AIDS patients."

9	Kim, Lee, Han, Lee, Park and Seongbuk-gu, [34]	DCHORD: An efficient and robust peer to peer look up system	Delayed	"The contributions of this paper are summarized as follows." "We propose an efficient peer to peer lookup system that performs better than the existing approaches for the non-random ID distributions. The system is rigorously defined in a mathematical formulation." "We present an efficient and robust stabilization scheme for DChord." "We provide extensive simulation results that show the correctness of the formal analysis."
10	Riza, Ling, Phang and Hoh 2010 [35]	Improving QoS in WLAN using dynamic weighted fair scheduling	Delayed in Conclusion section " As the simulation results showed the QoS performance of DWFSS mechanism is better than the standard scheduler	Delayed in Conclusion section "The proposed DWFSS mechanism successfully improves the fairness among different traffic classes and can improve QoE in a converged network... The DWFSS maintained an acceptable level of delay which is slightly higher than the standard scheduler."
11	Ling, Lee and Hoh (2010) [36]	Reducing handoff delay in WLAN using selective proactive context caching	We have implemented the SPCC algorithm using the OMNeT++ simulator equipped with INET Framework and showed that SPCC is able to reduce the re-association delay as compared to the regular handoff with IAPP.	Our solution, called Selective Proactive Context Caching (SPCC), reduces the re-association delay in the standard handoff (with Inter Access Protocol Point (IAPP)) by predicting the next possible APs where a station is likely to connect.
12	Ranathunga, Zainuddin and Abdullah 2010 [37]	Compacted dither pattern codes over MPEG-7 dominant color descriptor in video visual depiction	Delayed in Conclusion section "Considering the overall averages exhibited in precision (p), recall (r) and $F1$ measures by CDPC syntactic feature with Bhattacharyya classifier, it is evident that the CDPC based system has performed better over DCD and DCD(SC) systems."	Our approach has given generalised improved results in the presence of diverse visual qualities and unbalanced concept distributions of the dataset. While reducing the feature space, our descriptor is able to maintain an improved performance compared to DCD.
13	Por and Laiha 2010 [38]	Shoulder surfing resistance using penup event and neighbouring connectivity manipulation	Delayed in Future work and Conclusion section " The analysis and preliminary results show that the proposed mechanism was able to significantly resist shoulder surfing attack and produce larger password space compared to other schemes."	Delayed in Future work and Conclusion " this paper presents a novel shoulder surfing resistance mechanism that utilises penup event and neighbouring connectivity manipulation in the revised Background Pass-Go scheme.
14	Seng and Chitsaz 2010 [39]	Handgrip strength evaluation using neuro fuzzy approach	Delayed in Conclusion and Future works section " The small variance proves that the proposed system is accurate, reliable and feasible."	Delayed in Conclusion and Future Work section Reading and prediction using neurofuzzy algorithm will result in more accurate diagnosis, better treatment planning and more precise prognosis of a patient condition

The findings showed that only one article out of the 14 articles used the strategy of "Announcing the principle

outcome” and close to half of the articles studied uses the strategy of “Stating the value of the present research” in the Introduction section. Most of the articles delayed the use of the strategies by disposing the information towards the end of the articles particularly in the Result, Conclusion and Future Work section.

IV. DISCUSSION

While the two strategies are ranked as optional and probable in some discipline [12], studies on Computer science research articles showed that ‘Announcing the principle finding’ is being used quite widely such as at 70% in 1999 [16] and 73,21% a decade later [13], [16] reported the use of announcing principle finding is widespread in computer science RA at 70% occurrences and this finding is also supported by [17] at occurrence rate of 75%. Looking at the studies over the decade it can be concluded that even though the steps are stated as an optional strategy (Swales 2004), ‘Announcement of principle findings’ strategy in the introduction of research articles over the decade has increased and was described as “trending” [13].

The results of this study also confirm the phenomena identified in similar studies on research articles conducted in the neighbouring countries. [18] reported that writing out “the significant contribution of the study” as one of the problematic area in RA writing among the Indonesian writers. Another study [42] also reported that 100% of the native corpus in the study was found having the strategy of “announcement of principle finding” while only 40% of the non native corpus seized the strategy. The absences of the strategy in the introduction section of research articles by Thai writers were also reported and the researcher suggested that the absence was contributed to the small size of Thai scientific community whereby the competition is lesser [2].

In conclusion, despite the fact that promotional strategy is commonly practiced and is showing an upward trend among the native writers [13], the promotional strategy is rarely used amongst the non native writers particularly in the South East Asian region. The promotional strategy specifically using “announcement of the principle finding” and “stating the significant contribution of the study” is still under utilised in the Computer Science research articles studied. Academic language instructors teaching research article writing especially to non native writers can highlight this strategy in their teaching to increase the awareness on the existence and encourage the use of this strategy [43].

REFERENCES

[1] Hyland, K. (2003). Self-citation and self-reference: Credibility and promotion in academic publication. *Journal of the American Society for Information Science and Technology*, 54(3), 251-259.

[2] Kanoksilapatham, B. (2007). Writing scientific research articles in Thai and English: Similarities and

differences. *Silpakorn University International Journal*, 7, 172-203.

[3] Suryani, I. , Aizan. Y. , Hashima, N. , Salleh, A. R. & Hazry, D. (2014) Research Publication Output by Academicians in Public and Private Universities in Malaysia. *International Journal of Higher Education* 2 (1), 84-90

[4] Zakaria, J. A., & Rowland, F. (2006). What are the Prospects for Publishing Online Scholarly Journals in Malaysia? *The Cultural Constraint*.

[5] Roosfa, H., & Yahya, M. (2011). The Impact of E-Journals on the Malaysian Scholarly Community. *Digital Publishing and Mobile Technologies*, 158.

[6] Rahayu, S. N., Norazan, M. R., Az'lina, A. H., Adriana, I., Nornadiah, M. R., & Niswah, A. N. Determining the Significant Factors Affecting the Physical and Mental Components of Academicians Using Robust Linear Regression Models.

[7] Jusoff, H. K., Samah, S. A. A., & Abdullah, Z. (2009). Enhancing the Critical Role of Malaysian Institute of Higher Education from Ivy League American Universities Research Culture Experiences. *International Education Studies*, 2(3), P106.

[8] Henning, M. L. (2008) *Friendly Persuasion: Classical Rhetoric--Now! Draft Manuscript*. Retrieved on 2nd jan 2014 from <http://courses.durhamtech.edu/perkins/aris.html>

[9] Perdue (2014) “Aristotle's Rhetorical Situation” Retrieved on 2 January 2014 from <https://owl.english.purdue.edu/owl/resource/625/03/>

[10] Afros, E. (2007) *Promotional (Meta)discourse in Research Articles in Language and Literary Studies*. M.A Theses (Unpublished) University of Waterloo

[11] Juzwik, M. M. (2005). What rhetoric can contribute to an ethnopoetics of narrative performance in teaching: The significance of parallelism in one teacher's narrative. *Linguistics and Education*, 15(4), 359-386.

[12] Swales, J. (2004). Research Genre: Explorations and

- applications. Cambridge: Cambridge University Press.
<http://dx.doi.org/10.1017/CBO9781139524827>
- [13] Shehzad, W. (2010). Announcement of the principal findings and value addition in Computer Science research papers. *Ibérica: Revista de la Asociación Europea de Lenguas para Fines Específicos (AELFE)*, (19), 97-118.
- [14] Swales, J. & Najjar, H. (1987). The writing of research article introductions. *Written Communication*, 4(2), 175-191.
<http://dx.doi.org/10.1177/0741088387004002004>
- [15] Pho, P. D. (2008). How can Learning about the Structure of Research Articles Help International Students? Retrived on June 25, 2012 from <http://www.proceedings.com.au/isanadocs/2008/paper>
- [16] Posteguillo, S. (1999). The schematic structure of computer science research articles. *English for Specific Purposes*, 18(2), 139-160.
[http://dx.doi.org/10.1016/S0889-4906\(98\)00001-5](http://dx.doi.org/10.1016/S0889-4906(98)00001-5)
- [17] Anthony, L. (1999). Writing research article introductions in software engineering: How accurate is a standard model?. *Professional Communication, IEEE Transactions*, 42(1), 38-46.
<http://dx.doi.org/10.1109/47.749366>
- [18] Adnan, Z. (2008). Some potential problems for research articles written by Indonesian academics when submitted to international English language Journals. *Asian EFL Journal*
- [19] Dong, H. L., & Xue, H. (2010). Generic structure of research article abstracts. *Cross-Cultural Communication*, 6(3), 36-44.
- [20] Afros, E., & Schryer, C. F. (2009). Promotional (meta) discourse in research articles in language and literary studies. *English for Specific Purposes*, 28(1), 58-68.
- [21] Shehzad, W. (2008). Move two: establishing a niche. *Ibérica: Revista de la Asociación Europea de Lenguas para Fines Específicos (AELFE)*, (15), 25-50.
- [22] Kanoksilapatham, B. (2005). Rhetorical structure of biochemistry research articles. *English for specific purposes*, 24(3), 269-292.
<http://dx.doi.org/10.1016/j.esp.2004.08.003>
- [23] Ahmad, U. K. (1997). Scientific research articles in Malay: A situated discourse analysis. (Unpublished doctoral dissertation). University of Michigan US.
- [24] Mirahayuni, N. K. (2001). Investigating Generic Structure of English Research Articles: Writing Strategy Differences between English and Indonesian Writers. A paper presented at THE 49th TEFLIN International Conference 2001 Kuta, Bali, 6-8 November 2001.
- [25] Mirahayuni, N. K. (2002). Investigating textual structure in native and non-native English research articles: Strategy differences between English and Indonesian writers. (PhD Theses). University of New South Wales, Australia.
- [26] Samraj, B. (2002). Introductions in research articles: Variations across disciplines. *English for specific purposes*, 21(1), 1-17. [http://dx.doi.org/10.1016/S0889-4906\(00\)00023-5](http://dx.doi.org/10.1016/S0889-4906(00)00023-5)
- [27] Suryani, I., Kamaruddin, H., Hashima, N., Yaacob, A., Rashid, S. A., & Desa, H. (2013). Rhetorical Structures in Academic Research Writing by Non-Native Writers. *International Journal of Higher Education*, 3(1), p29.
- [28] Mustafa, M. B., Aion, R. N., Zainuddin, R., Don, Z. M., Knowles, G., & Mokhtar, S. (2010). Prosodic Analysis And Modelling For Malay Emotional Speech Synthesis. *Malaysian Journal of Computer Science*, 23(2), 102.
- [29] Nandi, U., & Mandal, J. K. (2010). Region based Huffman (RB H) Compression Technique with Code Interchange. *Malaysian Journal of Computer Science (MJCS)*, Malaysia, 23(2), 111-120.
- [30] Paraman, N., Ooi, C. Y., Sha'ameri, A. Z., & Fujiwara, H. (2010). A New CLASS OF EASILY

- TESTABLE ASSIGNMENT DECISION DIAGRAMS. *Malaysian Journal of Computer Science*, 23(1), 1.
- [31] Tahir, A., Ahmad, R., & Kasirun, Z. M. (2010). Maintainability dynamic metrics data collection based on aspect-oriented technology. *Malaysian Journal of Computer Science*, 23(3), 177.
- [32] Barajas, F. V. (2010). APrecise SPECIFICATION FOR THE MODELING OF COLLABORATIONS. *Malaysian Journal of Computer Science*, 23(1), 18.
- [33] Ghauth, K. I., & Abdullah, N. A. (2010). An empirical evaluation of learner performance in e-learning recommender systems and an adaptive hypermedia system. *Malaysian Journal of Computer Science*, 23(3), 141.
- [34] Hariharan, M., & Sazali, Y. (2010). Time-domain features and probabilistic neural network for the detection of vocal fold pathology. *Malaysian Journal of Computer Science*, 23(1), 60-67.
- [35] Abdul-Kareem, S., Raviraja, S., Awadh, N. A., Kamaruzaman, A., & Kajindran, A. Classification And Regression Tree In Prediction Of Survival Of AIDS Patients. *Malaysian Journal of Computer Science*, 23(3).
- [36] Kim, C. S., Lee, S., Han, J. I., Lee, Y. J., Park, J. H., & Seongbuk-gu, S. (2010). DChord: An Efficient and Robust Peer to Peer Lookup System. *Malaysian Journal of Computer Science*, 23(1), 37.
- [37] Riza, A., Ling T. C., Phang K. H. & Hoh, K., P. (2010) Improving QoS in WLAN Using Dynamic Weighted Fair Scheduling, *Malaysian Journal of Computer Science*, Vol. 23(2), 2010 pp. 85 – 101
- [38] Ling, T. C., Lee, J. F., & Hoh, K. P. (2010). Reducing Handoff Delay in WLAN using Selective Proactive Context Caching. *Malaysian Journal of Computer Science*, 23(1), 49.
- [39] Ranathunga, L., Zainuddin, R., & Abdullah, N. A. (2010). Compacted dither pattern codes over MPEG-7 dominant colour descriptor in video visual depiction. *Malaysian Journal of Computer Science*, 23(2), 68.
- [40] Por, L., Y. & Laiha, M. (2010). Shoulder surfing resistance using penup event and neighbouring connectivity manipulation. *Malaysian Journal of Computer Science*, 23(2), 121-141.
- [41] Seng, W. C., & Chitsaz, M. (2010). Handgrip strength evaluation using neuro fuzzy approach. *Malaysian Journal of Computer Science*, 23(3), 166.
- [42] Dong, H. L., & Xue, H. (2010). Generic structure of research article abstracts. *Cross-Cultural Communication*, 6(3), 36-44
- [43] McCrostie, J. (2008). Writer visibility in EFL learner academic writing: A corpus-based study. *ICAME Journal*, 32, 97-114.