Introduction Sections of Research Articles with High and Low Citation Indices

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ABSTRACT

Citation index for publication is one of the sought-after criteria for university ranking and it contributes to significant merits in an academician's performance evaluation. Citation indices are systematically generated to indicate the number of times a paper is cited by other writers. As such, it is deemed to be more neutral and unprejudiced in determining the value of the research articles. In view of the importance of citation index, this study compares the strategies used in presenting research work in the introductory sections of highly cited research articles and those that have never been cited. In order to be cited, the introduction section of the research article must be able to capture the interest of readers, which includes editors, reviewers, and the research community. Otherwise, readers may choose to read or cite other articles. Given the importance and complexity of an article, the introduction section is deemed to be the most challenging section to write by many scientific writers. Therefore, this paper compares the presentation of the introduction sections of Computer Science research articles in highly cited articles and those that have never been cited. A total of 127 research articles published in Scopus-indexed journals written by academicians from Malaysian universities were analysed using move analysis. The scheme for move analysis is derived from the CARS model (Swales, 2004). Apart from promoting the findings obtained in the research work, this study also suggests that the highly cited research articles have higher percentages of strategy realisation compared to research articles that have low citation.

INTRODUCTION

Citation index for publication is one of the sought-after criteria for university ranking

in Malaysia. As such; citation index is a factor considered in the performance evaluation for academicians (Roosfa & Yahya, 2011; Singh, Thuraisingam, Nair, & David, 2013). In addition, citation index is systematically generated to indicate the number of times a paper has been cited by other writers since it is more neutral and unprejudiced in determining the value of the research article. Given the importance of the introduction section, this study compares the strategies used in presenting the introduction by highly cited research articles with those that are less cited.

The introduction section of the research article has been reported to be the most challenging section to write because this is where writers need to capture the interest of the readers. Apart from making a first impression, this section needs to provide the reader with adequate insight of the research to sustain his or her interest to read further. Otherwise, the reader may choose to read another article. The writing must consider its readership, which includes editors, reviewers and the research community. Apart from local readership, research articles intended for international journal publication must also be worthy enough for a global audience (Suryani, Salleh, Aizan & Noor Hashima, 2015). Therefore, the introduction section must be engaging enough for audiences from different regions.

Taking heed of the importance of writing good research article introductions, this paper compares the presentation of the introduction sections of highly cited Computer Science research articles with

those that have never been cited. The need for a study on specialised corpora for the specific of research and teaching purposes has been highlighted in many studies (Khamis & Abdullah, 2012; 2013). The results of this study confirmed that the highly cited research articles in this corpus are more inclined to promote the findings of the studies compared to the research articles that have never been cited. The findings may be useful for research article writers and language instructors. The model, corpus selection and analysis are presented in the next section. In the discussion section, the findings of this study are compared with other findings of similar research. This paper ends with some pedagogical implications and suggestions for future studies in the conclusion section.

MATERIALS AND METHODS

A total of 127 research articles published in Scopus-indexed journal written by academicians in Malaysian universities were studied using the Swales model (2004).

The Corpus

The investigation on the corpus began in September 2013. It is important to note that the citation indices used were the ones obtained during that period. Due to the dynamic nature of the Scopus database, the citation indices for the research articles may change from time to time and some titles may even be removed from the Scopus database (Sciverse, 2012). Despite its dynamic nature, Scopus is still chosen as the source for this database for the following reasons.

Firstly, the Ministry of Higher Education in Malaysia recognises scholastic journals published in the Scopus database. The recognition is evident through directives communicated to academicians (JPT, 2010; Ministry of Higher Education, 2011; Department of Higher Education, 2012; Ministry of Higher Education, 2012a). Scopus and ISI journals have been continuously mentioned as targets for publication. Moreover, the university authorities in Malaysia insist that academicians publish in Scopus, ISI and impact-factor journals and this aspiration is clear when some universities offer rewards to writers in the form of 'seed money' or research grants (UniMAP, 2010; UniMAP, 2011).

Secondly, Scopus is recognised as an acceptable and tangible return of revenue for research grants awarded by the main sponsoring bodies in Malaysia, namely the Ministry of Education (MOE) and the Ministry of Science, Technology and Innovation (MOSTI). Grants such as the Fundamental Research Grant (FRGS), the Experimental Research Grant (ERGS), the Long-term Research Grant (LRGS) (Ministry of Higher Education, 2012b) offered by the Ministry of Higher Education and MOSTI's Science Techno Fund expect publication to be one of the research outcomes. Ideally, the publication needs to be indexed in Scopus or ISI.

Finally, let us compare Scopus to Web of Science and Google Scholar. Scopus has been found to be more suitable for publication because not all universities in Malaysia subscribe to the Web of Science database (Rizan, Hazry, Karthigayan, Nagarajan, Alajlan, Sazali, Azmi & Suryani, 2009). Consequently, a larger number of academicians have access to the Scopus database compared to those who have access only to the Web of Science database. In addition, the studies by Vieira and Gomes (2009), Falagas, Pitsouni, Malietzis and Pappas (2008), which compared Scopus with Web of Science, found that Scopus offered more coverage of articles than Web of Science. The studies also reported that search results using Google Scholar are more inconsistent and inaccurate as the "updates to Scopus and Web of Science were less frequent, generally on a weekly basis" (Falagas, Pitsouni, Malietzis, & Pappas, 2008; p.341). In short, not only does the Scopus database offer more research article titles, but it is also more accessible to the target group of the corpus; hence, it was the selected database of this study.

The corpus for this study is compiled into two groups. The research articles with six citations or more were grouped together as research articles with high citations, whereas those with zero citation index were grouped as research articles with no citation index. Research articles with one to five citations were not included in any group and were not counted in this analysis. The reason for doing this was to give the two groups a substantial or big difference in citation, which was needed to achieve the purpose of the analysis. The analysis was meant to obtain description of

the moves and steps used in higher-citation research articles compared to lower-citation research articles. Therefore, if the citations of the two groups differred just by one citation, the moves and steps in the research articles could also possibly have similar descriptions. By eliminating research articles with citations of one to five, a difference of six citations between the two groups would be achieved. A bigger difference between the two groups was needed to ensure that the two groups were significantly distinct and the

research articles were not in either group by chance. The tabulation of the citation in each group is displayed in Table 1.

In Table 1, the group of research articles with high citations consists of 62 research articles and the group with fewer citations comprises 65 research articles. For the analysis, the total of moves and steps for each group was converted to percentage, and comparisons were made between the moves and steps accomplished.

TABLE 1
Number of Research Articles by Groups

Citation group	Description	Number of research articles
Research articles with high citation	Citation 30 and above Citation 20 to 29 Citation 10 to 19 Citation 6 to 9 Total	6 5 31 20 62
Research articles with low citation	Research article with zero citation	65

Swales Model

The Create-A-Research-Space (CARS) model was designed and revised by Swales through a series of modifications (Swales, 1987; 1990; 2004). The model was proposed following an analysis of 158 introductions in research articles written in English. It was developed to enable analysis on main rhetorical patterns of organising introductions in research articles and has been used in many research studies (Ahmad, 1997; Jogthong, 2001; Samraj, 2008). The CARS model (Swales, 2004) proposes that research article introductions are rhetorically structured and the rhetorical structures are realised using three moves. The three moves are

"Establishing a territory", "Establishing a niche" and "Presenting the present work". This paper reports on the realisation of Move 3 proposed in the model, namely, "Presenting the present work".

Analysis Method

Move analysis is performed on the corpus using Move 3 in the CARS model (Swales, 2004) i.e. "Presenting the present work". This model proposes a series of seven possible steps that can be used to realise this move consisting of one obligatory step, three optional steps and three other steps that are probable in some fields but unlikely to be used in others (PISF). The seven steps are as follows:

Step 1: (Obligatory) Announcing the present research descriptively or purposively

Step 2: (Optional) Presenting the research questions or hypothesis

Step 3: (Optional) Definitional clarifications

Step 4: (Optional) Summarising the research methods

Step 5: (Probable in some fields, but unlikely in others) Announcing the principal outcomes

Step 6: (Probable in some fields, but unlikely in others) Stating the value of the present research

Step 7: (Probable in some fields, but unlikely in others) Outlining the structure of the paper.

Step 1, based on the model, can be fulfilled in two ways: purposively or descriptively. Presenting the present work purposively is by stating the purpose and reasons why the study is done and to present the work descriptively is by describing, listing and recounting the composition of the study. Shehzad (2011) elaborated that purposive announcement was that in which the authors "indicate[d] their main purpose or purposes or outline the nature of the study" and descriptive announcement was that in which the authors "describe[d] the main feature of their research". In other words, this step is where readers are informed about the reasons and the rationale of the study being presented and this step is an obligatory step for this move.

The optional steps that can be used to realise the move of presenting the present research work listed in the CARS model (Swales, 2004) are "Presenting the research questions or hypothesis", "Definitional clarifications" and "Summarising the methods". The "Presenting the research questions or hypothesis" step was a new step added to the CARS model version of 2004. Prior studies (Posteguillo, 1999; Jugthong, 2001; Shehzad, 2011) or studies conducted using the CARS model version of 1987 and of 1990 did not look into this step and consequently, the data for a longitudinal comparison was more limited compared to the steps that were included in the earlier models. Even though the previous models did have the step, "Question raising", this particular step was projected to realise the strategy for Move 2, which is "Establishing a niche". Given that this particular step was intended to establish the research niche, comparing "Question raising" with "Presenting the research questions or hypothesis" would be inappropriate. The comparison would also be inappropriate as the latter is intended to realise the strategy on presenting the present research work rather than focusing on the research niche.

The PISF Steps

The PISF step refers to the steps that are "probable in some fields, but unlikely in others" (Swales, 2004). The three steps are "Announcing the principal outcomes", "Stating the values of the present research" and "Outlining the structure of the paper". Shehzad (2011) associated the

announcements of the principal findings and value of the research to "promotion strategy". As a consequence of the various motivations in research article publication, authors need to inform readers of the principal findings and the value of the research much earlier in the paper. Informing the readers earlier means making the announcements in the introduction section rather than taking the chance that readers will continue to read until the results and discussion section. The results and discussion section is towards the end of the research article; hence, the probability of sustaining the readers' interest until the end in order to discover the value of the research is taking a risk. However, these steps are non-obligatory and, while they may be apparent in certain disciplines, the steps could also be improbable in other disciplines. This study looks at the practice in the Computer Science discipline and compares the practice of research articles that have been highly cited with those that have never been cited.

Before elaborating on the findings of the different strategies used, the cut-off point for obligatory and non-obligatory classification must be established. The cut-off point for this analysis was set at 90% following the research by Sheldon (2011) and Soler-Monreal *et al.* (2011). The moves and steps with the realisation of 90% and more were appraised as obligatory while the realisation of less than 90% was considered as optional.

Previous studies have suggested that a move can be considered as obligatory or conventional. If the occurrence in the corpus is at 60% or more, the move is considered obligatory; otherwise, the move is considered as optional (Kanoksilapatham, 2005; 2007). However, recent researchers propose that a move is "deemed to be classified as obligatory" only at 90% of the move realisation (Sheldon, 2011, p.241; Soler-Monreal *et al.*, 2011). This study adopts the view from Sheldon (2011) and Soler-Monreal *et al.* (2011) because these views are based on more recent studies in view of the competitive nature of research articles as a genre that is dynamic and that changes according to the needs and preference of the discourse community (Swales, 2004). Given that it has been a decade since the study by Kanoksilapatham (2005; 2007) was conducted, there is a possibility that the genre has undergone some changes over the decade. This is possible given the robust development in the discipline of Computer Science (Tedre, 2006).

RESULTS AND DISCUSSION

The corpus in this study showed that research articles with high citation have a higher percentage of realisation in presenting the research work. Ninety-seven percent of the highly-cited articles accomplished this strategy while only 83% of research articles with zero citation were chosen to utilise this move, bringing the percentage difference between the two groups to 14%.

Using the scale of 90% to classify the move status showed that the difference in percentage between the two groups was

significant. Presenting the present research work was considered an obligatory move among the highly-cited research articles whereas the move was considered optional among research articles with zero citation. The difference in percentage between the two groups in realising this move was also reflected in the different preference of the steps utilised in presenting the research work between the two groups.

The Obligatory Step

Compared with the research articles with zero citation, the highly-cited research articles were more inclined to fulfill the CARS model (Swales, 2004). Step 1, which is "Announcing the present research descriptively or purposively", occurred at the obligatory level among the highly-cited research articles, just as suggested in the model, whereas the research articles with zero citation adopted this strategy as an optional step. The percentage of occurrence for this step among the highly-cited research articles was at 92% while for the other group it was 75%. This step was deemed obligatory by the authors of the highly-cited articles.

TABLE 2
Results of Move Analysis

Move	Research article with high citation	Research article with low citation
Presenting the present work	97	83
Step 1 (Obligatory) Announcing present research descriptively and/or purposively	92	75
Step 2 (Optional) Presenting RQ or hypothesis	8	2
Step 3 (Optional) Definitional clarifications	18	20
Step 4 (Optional) Summarising methods	55	40
Step 5 (PISF) Announcing principal outcomes	14	12
Step 6 (PISF) Stating the value of the present research	44	28
Step 7 (PISF) Outlining the structure of the paper	36	20

TABLE 3
Comparison with the Previous Findings

Previous study on non-native writers	Result of presenting the present work
Fakhri, 2004	39%
Brionnes, 2012	30%
Sheldon, 2011	25%
This study – High citation This study – Low citation	92% 75%

In comparing these findings with the findings from other studies (Table 3), it could be said that this step has been fairly utilised in the research articles in this study. Putting these findings side by side with similar studies on research articles written by non-native English writers (Fakhri, 2004; Brionnes, 2011; Sheldon, 2011), it can be seen that the percentage of occurrences for this corpus was much higher. Studies by Brionnes (2012) on research articles written by academicians in a university in the Philippines showed that only 30% or nine out of the 30 research articles stated the purpose of the study in the introduction section. Brionnes (2012) also stated that 26.66% of the research articles in the study did not present the present work (Move 3) in the introduction section at all. Instead of mentioning what the research was about in the introduction section, the research was only presented in the following sections.

Sheldon (2011) studied 54 Applied Linguistics research article introductions written by English natives and Spanish writers. The study found the percentage of realisation for this move by the Spanish writers was at 25%. Fakhri (2004) found that 39% of the Arabic research articles complied with the CARS model (Swales, 2004). Given that the studies by Fakhri (2004), Brionnes (2011) and Sheldon (2011) were done in disciplines other than Computer Science, the difference in the percentage could be attributed to the variations that existed across the disciplines.

Even though this study did not provide any evidence that can credit the higher percentage for the strategy, "Presenting the present work", to better writing strategies among academicians in Malaysian universities, the data showed that the percentage of accomplishment by the writers in this study was higher than the realisation by non-native English writers found in other studies (Fakhri, 2004; Brionnes, 2011; Sheldon, 2011). This percentage, however, is lower than the realisation found in studies using sampling on a global scale (Posteguillo, 1999; Atai & Habibie, 2009; Shehzad, 2011). In the studies by Atai & Habibie (2009), Posteguillo (1999) and Shehzad (2011), the selection of the corpus focused on the discipline variation rather than on the place of birth of the writer. Therefore, the selection of the research article was more globally orientated. The percentage in those studies ranged from 95 to 100% compared to 89.7% in this study. Comparison of the findings suggested that academicians in Malaysian universities realised this strategy fairly well in their writings; however, more realisation needs to be made in order for their writings to be on par with that of global writers.

In comparing the findings of this study with two other studies on research articles in the discipline of Computer Science (Posteguillo, 1999; Shehzad, 2011), it could be seen that the percentage of realisation in this study was slightly lower than the findings of those studies. Posteguillo (1999) used the CARS 1990 model; hence, the findings were in two steps, namely, Move 3S1A, "Outlining purposes", and Move

3S1B, "Announcing present research". The percentage were 25% and 95%, respectively. Shehzad (2011) used the same CARS model with the present study and found 98.2% of occurrences. Posteguillo (1999) and Shehzad's (2011) studies found a higher percentage of realisation than was found in this study, that is, 92% and 75%.

The explanation for these differences in percentage is attributed to the cultural variation factor. Unlike this study, the two previous studies (Posteguillo, 1999; Shehzad, 2011) were done with a focus on Computer Science research articles without examining the effect of the writer's place of birth. The objective of the studies was in finding how the Computer Science research articles were written regardless of place of birth of the writers. These studies took the view that scientists working on the same discipline of science shared the same norms and expectations regardless of their nationality and language (Okumura, 2003 in Shehzad, 2011). However, this study, along with a few other studies (Kanoksilapatham, 2007; Hirano, 2009; Jugthong, 2001; Yaghoubi-Notash & Tarlani-Aliabadi, 2012) found that non-native English writers do have different preferences for rhetorical strategies, which result in different writing rhetoric. The authors of the research articles in these studies were academicians in Malaysian universities who were mostly non-native writers. In short, comparison between the different types of studies showed that Malaysian writers had different preferences for rhetorical strategies and, while accomplishing more strategies than other non-native English writers, the utilisation of the strategies was still lower than the norm found in global practice.

The Optional Step

Out of the three optional steps proposed by the model, Step 2, which is "Presenting the research question or hypothesis", was found to be the least preferred. The percentage of realisation for this step among the highly-cited research articles was at 8% while for the research articles with zero citation it was only at 2%. This step was the least preferred step of all the seven steps listed for the move. Both groups had a low percentage of occurrences for this step. The research articles with high citation realized this move at 8% while only 2% of the research articles with low citation attempted this move. These findings showed that the research articles in the corpus conformed to the proposed steps in the CARS model (2004), which identified this move as an optional move.

The finding on the next step, which is "Definitional clarifications", also conformed to the model. However, the percentage of realisation for the research articles with zero citation was higher than the percentage for the highly-cited research articles, which were at 20% and 18% respectively. This finding showed that the research articles that had never been cited were more inclined to give definitions and meanings in the introduction section.

On the other hand the finding in the next step showed that the highly-cited research articles were more competent in presenting

the summary of the research method in the introduction section compared to the other group. The percentage for this group was at 55% whereas the realisation for this step among the research articles with no citation was at 40%. Both groups conformed to the CARS model in having this step as an optional step.

In short, the realisation of the steps in this study conformed to the CARS model (Swales, 2004) i.e. using these steps as the optional steps. In terms of citation index, the highly-cited research articles had better realisation in presenting the research questions or hypothesis. The highly-cited research article group also had better accomplishment in presenting the summary of the methods in the introduction section. Conversely, the research articles that had no citation index gave more definitional clarifications compared to the highly-cited research articles.

The PISF Steps

The PISF steps refer to the steps that are "probable in some fields, but unlikely in others" (Swales, 2004). The three steps are "Announcing the principal outcomes", "Stating the values of the present research" and "Outlining the structure of the paper". The finding on the "Announcement of the principal finding" step showed that the highly-cited research articles were more inclined to adopt this step compared to the other group. The percentage was at 14% and 12%, respectively. The same outcome was observed for the step, "Stating the value of the present research". The highly-

cited research articles had a percentage of 44% while the research articles that were not been cited had a percentage of 28%. The percentage difference between the two groups was bigger for this step, indicating the different preference for strategy use between the two groups was more evident for this step.

In relation to the promotional strategies explained in the "Materials and Methods" section earlier, the findings from these two steps indicated that the highly-cited research articles were more insistent in promoting the value of the research work and announcing the findings of the study. This way, readers can anticipate the value and relevance of the research being presented. The research articles that were not cited accomplished this strategy at a lower rate. Many of the articles in this group declared their findings and value of the study. However, the announcement was delayed, appeared later or made in the "Findings and Discussion" section, which is in the latter half of the research article.

The CARS model (2004) proposes Step 7, "Outlining the structure of the paper" as the last strategy for presenting the research work. This step was also "probable in some fields, but unlikely in others". The highly-cited research articles had a percentage of 36% occurrence whereas the research articles that had never been cited had only a 20% step realisation. The findings also showed that the highly-cited research articles were more assertive in presenting the research work. Apart from presenting the structure of the paper, the research

articles in this group also disclosed briefly what the following sections would be on. This way, the reader can anticipate what the research article is about and how relevant the rest of the article is. In addition, the reader can also skip directly to the intended part for reading.

CONCLUSION

The examination of the corpus in the study showed that the highly-cited research articles were more inclined to utilise the strategy proposed in the Swales (2004) model of Move 3 compared to the research articles that had never been cited. Comparisons on the findings also suggested that academicians in Malaysian universities realised this move fairly well; however, more realisation needs to be made in order for their writings to be on par with those of global writers. The findings also stressed the need for writers to be more assertive in promoting their research work in the introduction paragraph by utilising the "Announcing the principle outcome" and "stating the value of the present research" steps.

REFERENCES

Adnan, Z. (2009). Some potential problems for research articles written by Indonesian academics when submitted to international English language journals. *The Asian EFL Journal Quarterly, 11*(1), 107–125.

Ahmad, U. K. (1997). *Scientific research articles in Malay: A situated discourse analysis*. (Unpublished PhD thesis dissertation). University of Michigan, USA.

Anthony, L. (1999). Writing research article introductions in software engineering: How accurate is a standard model? Professional communication. *IEEE Transactions*, *42*(1), 38–46.

Atai, M. R., & Habibie, P. (2009). Exploring sub-disciplinary variations and generic structure of applied research article introductions using CARS Model. *The Journal of Applied Linguistic, 2*(2), 26-51. Retrieved from http://www.sid.ir/En/VEWSSID/J_pdf/1009720090502.pdf.

Brionnes, R. R. Y. (2012). Move analysis of philosophy research article introductions published in the University of Santo Tomas. *Philippines ESL Journal, 9,* 56–75.

Cortes, V. (2010). Review on discourse on the move: Using corpus analysis to describe discourse structure by Douglas Biber, Ulla Connor, Thomas Upton, John Benjamin. *Amsterdam English for Specific Purposes, 29*(1), 70–73.

Cortes, V. (2013). The purpose of this study is to: Connecting lexical bundles and moves in research article introductions. *Journal of English for Academic Purposes, 12*(1), 33–43.

Department of Higher Education (2012). *Official portal*. Retrieved from http://www.mohe.gov.my/portal/en/info/organisation/department/jpt/html.

Dong, H. L., & Xue, H. (2010). Generic structure of research article abstracts. *Cross-Cultural Communication*, *6*(3), 36–44.

Fakhri, A. (2004). Rhetorical properties of Arabic research article introductions. *Journal of Pragmatics*, *36*(6), 1119–1138. doi:10.1016/j.pragma.2003.11.002.

Falagas, M. E., Pitsouni, E. I., Malietzis, G. A., & Pappas, G. (2008). Comparison of PubMed, Scopus, Web of Science, and Google Scholar, strength and weaknesses. *The FASEB Journal, 22*(2), 338–342.

Hirano, E. (2009). Research article introductions in English for specific purposes: A comparison between Brazilian Portuguese and English. *English for Specific Purpose, 28*(4), 240–250.

Jogthong, C. (2001). *Research article introductions in Thai: Genre analysis of academic writing.* (Unpublished PhD thesis dissertation). West Virginia University.

JPT (2010) *Amanat tahun baru Jabatan Pengajian Tinggi 2010*. Putrajaya: Jabatan Pengajian Tinggi.

Kanoksilapatham, B. (2005). Rhetorical structure of biochemistry research articles. *English for Specific Purposes, 24*(3), 269–292.

Kanoksilapatham, B. (2007). Writing scientific research articles in Thai and English: Similarities and differences. *Silpakorn University International Journal, 7*, 172–203.

Kanoksilapatham, B. (2010). Reconciling efforts to understand engineering intellect: Research articles from linguistic perspective. *International Journal of Business and Technopreneurship, 1*(1), 137–148.

Khamis, N. B., & Abdullah, A. (2012). Analyses of wordlist: An insight into lexical features of a specialized language. *Signal, 1*(5), 0–50.

Khamis, N., & Abdullah, I. H. (2013). Wordlists analysis: Specialised language categories. *Pertanika Journal of Social Sciences & Humanities*, *21*(4), 1563–1581.

Ministry of Higher Education (2011) *Amanat tahun 2010 pengajian tinggi ke arah transformasi negara.* Putrajaya: Kementerian Pengajian Tinggi Malaysia.

Ministry of Higher Education (2012a). *Agenda kritikal – Perhubungan industri dan akademik* (Critical agenda industry and academic relation). Retrieved from http://jpt.mohe.gov.my/ AGENDA% 20KRITIKAL/Perhubungan%20 Industri%20dan%20Akademik.php.

Ministry of Higher Education (2012b). *Garis panduan ERGS pindaan 2012*. Retrieved from http://jpt.mohe.gov.my/PENYELIDIK/ergs/ Garis%20Panduan%20ERGS%20pindaan%20 2012.pdf.

Posteguillo, S. (1999). The schematic structure of computer science research articles. *English for specific purposes*, *18*(2), 139–160.

Rizon, M., Hazry, D., Karthigayan, N., Nagarajan, R., Alajlan, N., Sazali, Y., ... Suryani, R.I. (2009). Personalize human emotion classification using genetic algorithm. In *proceeding for visualization 2nd International Conference* (pp. 224-228). Barcelona.

Roosfa, H., & Yahya, M. (2011). The impact of e-journals on the Malaysian scholarly community. In *Proceeding for Orcun 15th International Conference* (pp.158–164). Istanbul: Electronic Publishing.

Samraj, B. (2008). A discourse analysis of master's theses across disciplines with a focus on introductions. *Journal of English for Academic Purposes, 7*(1), 55–67.

Sci Verse. (2012). What is SciVerse? Retrived from http://www.info.sciverse.com/sciencedirect.

Shehzad, W. (2011). Outlining purposes, stating the nature of the present research, and listing research questions or hypotheses in academic papers. *Journal of Technical Writing and Communication*, *41*(2), 139–160.

Sheldon, E. (2011). Rhetorical differences in RA introductions written by English L1 and L2 and Castilian Spanish L1 writers. *Journal of English for Academic Purposes*, *10*(4), 238–251.

Singh, P. K., Thuraisingam, T., Nair, V., & David, M. (2013). The research imperative in the evolving environment of public universities in Malaysia. *The Journal of the South East Asia Research Centre, 5*(1), 1–18.

Soler-Monreal, C., Carbonell-Olivares, M., & Gil-Salom, L. (2011). A contrastive study of the rhetorical organisation of English and Spanish PhD thesis introductions. *English for Specific Purposes*, *30*(1), 4–17. doi: http://dx.doi.org/10.1016/j.esp.2010.04.005.

Suryani, I., Kamarudin, H., Aizan, Y., Noor, H., Salleh, A. R., & D. Hazry. (2014). Rhetorical structures and variations in academic research writing by non-native writers. *International Journal of Higher Education, 3*(1), 29–38.

Suryani, I., Salleh, A. R., Aizan, Y., & Noor Hashima, A.A. (2015). Comparison on the promotional strategies used in performing art and visual art research. *Proceeding for 2nd International Colloquium of Art and Design Education Research 2015*, 12-15 April, Malaysia.

Swales, J. M. (2004). *Research genres: Explorations and applications*. New York: Cambridge University Press.

UniMAP (2010). *Pelan strategik Universiti Malaysia Perlis 2010*. Malaysia: Penerbitan UniMAP.

UniMAP (2011). *Pelan strategik Universiti Malaysia Perlis 2011*. Malaysia: Penerbitan UniMAP.

Yaghoubi-Notash, M., & Tarlani-Aliabadi, H. (2012). Generic variation across languages: A case for applied linguistics. *The Iranian EFL Journal*, *36*(6), 271–283.

Vieira, E. S., & Gomes, J. A. N. F. (2009). A comparison of Scopus and Web of Science for a typical university. *Scientometrics, 81*(2), 587–600.