TECHMIND RESEARCH
ISSN: 2368-2132

Journal of English Language and Literature
Volume 2 No.1 August 2014

The Benefits of Formula Instruction in Enhancing EAP Learners' Academic Writing Performance

Nor Ashikin Ab Manan[1*], Paramaswari Jaganathan[2], Ambigapathy Pandian[3]
[1]Universiti Teknologi MARA (UiTM) Perak, Seri Iskandar, Perak, Malaysia,
noras914@perak.uitm.edu.my
[2]Universiti Sains Malaysia, Pulau Pinang, Malaysia,
parames@usm.my
[3]Universiti Sains Malaysia, Pulau Pinang, Malaysia,
ambiga@usm.my

Abstract-*The purpose of this study is to explore the benefit of direct instruction of academic formulas (DIAF) on the subjects' academic writing performance. Two intact groups of Diploma in Computer Science students assigned as the experimental and control groups participated in the study. Each group consists of forty mixed ability ESL learners who were enrolled in an academic writing course. DIAF was incorporated into the academic writing course employing a process-oriented writing approach and was conducted over six weeks out of the fourteen-week semester. Pre and post academic essay writing (AEW) tests were utilized for quantitative data collection while focus group interview was utilized for collecting the qualitative data. This paper discusses the results of the study by focusing on the effects of DIAF on learners from different proficiency level.*

General Terms- *Academic Language, Academic Writing*

Keywords- *Teaching Academic Formulas; Academic Language; Academic Writing Performance*

1. INTRODUCTION

Poor academic writing proficiency among undergraduates has been a major concern among ESP/EAP teachers at tertiary level in Malaysia. Research has shown that academic language proficiency is vital for accessing academic texts as well as academic talks (Bailey & Heritage, 2008), and academic language is also tied to the evaluation of the students' academic work (Snow & Uccelli, 2009; Nadarajan, 2011). This study was conducted to explore the benefits of direct instruction of the academic formula (DIAF) integrated into an academic writing course employing process-oriented writing approach. The main objective of the study is to determine whether DIAF is beneficial at enhancing the subjects' academic writing ability and to investigate the effects of DIAF on learners from different proficiency level.

2. REVIEW OF RELATED LITERATURE

2.1 The Importance of Academic Writing

Academic writing skill is important for tertiary level learners since students' academic performance is evaluated mostly based on their written work (Kelley, 2008; O'Ferrell, 2005), and academic writing is a literacy practice which connects the students' admission into their disciplinary communities and the acquisition of the formal conventions associated with them (Leibowitz, Goodman, Hannon & Parkerson, 1997). The main characteristics of written academic English are its formal style of expression and precise word choice (Coffin et al., 2003) and one of the defining features of academic prose is academic vocabulary. As stressed by Schoonen et al. (2001, p. 33) academic writing draws heavily on linguistic resources a writer has and "a large vocabulary and a rich and flexible repertoires of sentence frames" will assist the writer to be clear and concise in his writing.

2.2 Academic Vocabulary Knowledge

It has been reported that many Malaysian undergraduates lack both receptive and productive vocabulary knowledge expected for tertiary level studies (Jamian et al., 2008; Mathai et al., 2004; Mokhtar, 2010) which in turn contributes to their poor academic writing performance. Findings from research have established the need for academic vocabulary instruction to develop undergraduates' proficiency in academic writing. Hinkel (2004) has proposed that in addition to grammar, academic vocabulary should also be explicitly taught in an academic writing class for ESL learners. Nevertheless, due to limited time allocated to developing academic writing at tertiary level, deciding on the criteria for target academic vocabulary (TAF) selection is important in order for the proposal of direct instruction to be practical. To address this matter the study has turned to second language acquisition (SLA) research which has procured mounting

evidence on the highly formulaic nature of language based on research conducted in the fields of corpus linguistics and psycholinguistics (Biber, Conrad & Cortes, 2004; Biber & Barberi, 2007; Conrad, 2008; Ellis, 1996; Erman & Warren, 2000; Foster, 2001; Howarth, 1998; Rayson, 2008; Sinclair, 1991; Wray, 2002).

2.3 Academic Formula Instruction

Since multiword lexis or formulas, "fulfil the same functions as single words" (Boers & Lindstromberg, 2012, p. 84), similar to vocabulary knowledge which has been found to be a strong predictor of general proficiency (Lewis, 2002; Schmitt, Jiang & Grabe, 2011; Singleton, 2000), L2 learners' knowledge of multiword lexis has been found to correlate highly with proficiency level as well (Keshavarz & Salimi, 2007; Al-Zahrani, 1998; Zhang, 1993).

Many researchers (refer to Boers et al., 2006; Boers & Lindstromberg, 2012; Nation, 2001;Wray & Perkins, 2000; Roever, 2012; Wray, 2002; Wood, 2010) recognise the importance of mastering the formulas and concur that L2 learners can gain a lot of benefits from formula instruction. However, there has been no conclusive agreement on how these expressions should be included in L2 teaching curricula and the most useful pedagogical approach to formulas (Coxhead, 2008). Thus, this study has adopted the proposal by Sinclair and Renouf's (1988) to focus on the common uses of the common words and Willis's (2003, p. 163) suggestion of using "pedagogic corpus", corpus made up of texts used in the classroom as the resource for formula instruction. DIAF is the intervention model which was integrated into an existing Academic Writing course syllabus. DIAF was modelled after Lewis's (2000, p.153) proposal of integrating "mini-action programmes" into ESL teachers' preferred or imposed teaching curriculum.

2.4 Theoretical and Pedagogical Frameworks

The general theoretical literature of the study entails the *Theory of Cognition* which is supported by the *Model of Human Memory* and *Henriksen's Vocabulary Acquisition Model*. Under the Theory of Cognition lies the 'power law of learning', 'rehearsal', and 'noticing hypothesis'. The 'power law of learning' states that the effects of practice or rehearsal, are greatest at early stages of learning but eventually reach a plateau (Ellis & Schmidt, 1998; Speelman & Kirsner, 2005). Therefore, since the effects of exposure are very clear for learners with less experience with certain constructions compared to those who have more experience, the implementation of intervention needs to integrate rehearsals as reinforcement activities. Then the non-native speakers (NNSs) will benefit more from exposure and rehearsal compared to native speakers (NSs). Moreover, the 'Noticing Hypothesis' states that input does not become intake for language learning unless it is noticed or in other word, consciously registered (Schmidt, 1990, 1993, 2001). Therefore, rehearsal and noticing are important in learning and since learners come across high-frequency items more often than low-frequency ones they have a higher probability of knowing high-frequency items better.

Meanwhile, Corpus Linguistics theories are the major influence that shape the proposed intervention model (DIAF). Hoey (2005) highlights the fact that for many ESL learners the classroom and the teaching materials used in the classroom provide the only context for 'priming' therefore, it is essential that 'helpful' priming be provided in the classroom. Linguistic materials used in the classroom should also provide context to the formula used as linguistic material in isolation is impoverished and highly underspecified since the context of use guides meaning generation and construction (Hoey, 2005). Another consideration was James' (1890) 'law of contiguity' cited in Durrant and Schmitt (2010, p.42), which states that frequent co-occurrences of two words will result in them being perceived as units or 'chunks'. Since it has been established by research that weaknesses in non-natives' grasp of collocational links between words are mainly caused by the lack of exposure (Durant & Schmitt, 2010), it is imperative that NNS learners be provided with exposure through direct teaching of these formulas.

3. RESEARCH METHODOLOGY

3.1 Research Samples

Two intact groups of Diploma in Computer Science students assigned as the experimental and control groups participated in the study. Each group consists of forty (N=40) mixed ability ESL learners who were enrolled in an academic writing course. They were from similar age group, ranging from 19 to 21 years old. They were homogeneous with regard to their mother tongue (Malay), cultural and educational background as well as the length of exposure to formal English as a second language (ESL) instruction. Eight participants from different English language proficiency levels from the experimental group were chosen to form two mixed-ability focus groups.

3.2 TAF Selection and Implementation of DIAF

Thirty high frequency academic formulas were selected from the academic formula list (AFL) by Simpson-Vlach and Ellis (2010) and identified as the target academic formulas (TAF) for the study. The formulas chosen appear at least once in the prescribed textbook (Michael et al., 2010) and/or the supplementary material used for the Academic Writing course. The selection of TAF had also taken into consideration learner variables, learnability and teachibility as recommended by Granger (2011). In this study, the materials used for TAF instruction were developed to provide essential shortcuts to priming as recommended by Hoey (2005) which includes usage notes, drilling exercises, texts with repeated instances of word sequence and illustrations. DIAF was incorporated into the academic writing course employing a process-oriented writing approach and was conducted two hours per week over six weeks out of the fourteen-week semester (week 3, 5, 8, 9, 10 and 11). DIAF involves several types of

activities which were conducted during the experimental period. The first activity involved learning the target formulas in context. Prior to the activity, the list of the target academic formulas was distributed to the subjects. The subjects were given two reading comprehension passages of the same theme to work on. The target academic formulas found in the passages were highlighted and their meaning and functions were discussed. The subjects' awareness of the formulas was raised as they read the passages and answer the comprehension questions. In addition to awareness raising exercises, the subjects practised constructing sentences using the target formulas. It was followed by exercises in developing thesis statements and topic sentences. Finally, they practised using TAF in developing a paragraph and in writing a full academic essay. Table 1 shows the target academic formulas (TAF).

Table 1: Target Academic Formulas (TAF)

in relation to [1]	**can be/ is/ are affected by[11]**	**due to the fact that[21]**
in response to [2]	give rise to[12]	As a consequence[22]
(from)(the) point of view (of) [3]	as well as[13]	as a result of[23]
to distinguish between [4]	more/less likely to[14]	due to the[24]
the relationship between [5]	there are (three/a few/many) [15]	can be achieved[25]
in conjunction with[6]	there are several [16]	appears to be/ does not appear to be[26]
according to the [7]	there is/are no[17]	there has been/there have been[27]
can be considered [8]	on the basis of[18]	a large number of[28]
a variety of [9]	in terms of (the) [19]	the number of[29]
with regard to [10]	in accordance with [20]	(there) are a number (of) [30]

3.3 Research Instrument and Data Collection

Pre and post academic essay writing (AEW) tests were utilized for quantitative data collection while focus group interview was utilized for collecting the qualitative data. Pre AEW test was conducted at the beginning of the study period (week two) while the post AEW test was conducted at the end of the study period (week 14). AEW test was adapted from the writing section of the Academic Writing course's final examination paper to measure academic writing performance of the experimental and control groups before and after the experiment. Marks allocation for the AEW test are as follows: (i) eight marks for content, (ii) six marks for language, and (iii) six marks for oranization. The scorers were provided with a general marking scheme and a separate analytic scales for rating academic essays based on 'content' and 'language'. The general marking scheme provides information on mark allocation for the different components and detailed destribution of marks for 'organization' component. The analytic scales for rating the 'content' and 'language' components were adapted from the Academic Writing course's final examination marking scheme for writing component and Brown and Baily's analytic scale for rating composition tasks (Brown, 2004, pp. 244-245). The total scores were then devided by twenty and converted to 100%. Next, the number of TAF used by the subjects in the post AEW test was manually counted. Only target formulas that were correctly used were considered. The focus group interview was conducted at the end of the study period (Week 15) to collect qualitative data.

4. DATA ANALYSIS AND RESULTS

To minimize the possible errors by individual differences in the samples, Analysis of Covariance (ANCOVA) was conducted on the post AEW test scores. In the current study, the analysis of covariance was used to control for initial differences in the two groups compared. It was used to hold students' previous knowledge constant while determining the effect of an independent variable (DIAF) on the students' post-test performance. In this analysis, the pre-test scores served as covariates and the post-test scores were the dependent measures. The purpose of using the pre-test scores as a covariate in ANCOVA with a pre-test-post-test design was to adjust the post-test means for differences among groups on the pre-test, because such differences were likely to occur with intact groups (Chua, 2009). In other words, the statistical analysis of covariance adjusts the scores on the dependent variables to account for the covariance. This procedure was a means for equating the groups and controlling for potential influences that might affect the dependent variable (Creswell, 2008).

Table 2 shows the summary of ANCOVA results for the overall AEW test scores and the different writing components of the test which are 'content', 'language' and 'organization'.

4.1 Interpretation Based on ANCOVA Results

Based on the ANCOVA results it can be inferred that there is a significant difference in the mean scores between the experimental and control groups when subjects' previous knowledge is statistically controlled. Since the probability value obtained for 'METHOD' is 0.000 which is smaller than the predetermined alpha value of 0.05 it can be concluded that there is significant difference in the mean scores between the experimental and control groups according to methods of instruction. The value of adjusted R^2 is 0.588 which means that the independent variable (METHOD) can account for 58.8 % of the variance in the dependent variable (post AEW test scores).

It can be inferred from the ANCOVA results that the experimental group performed significantly better than the control group in the overall scores as well as the scores for all the three writing components after going through the treatment (DIAF).

Table 2: The results of one-way ANCOVA for AEW Test

Source	Type III Sum of Square	df	F	Sig	R^2	Adjusted R^2
Pre_AEW (Overall)	6753.332	1	83.500	0.000	0.599	0.588
Method	2474.103	1	30.591	0.000		
Pre-Content	480.442	1	38.940	0.000	0.369	0.353
Method	92.579	1	7.504	0.008		
Pre-Language	1030.253	1	49.381	0.000	0.511	0.498
Method	681.176	1	32.650	0.000		
Pre-Organization	359.598	1	23.865	0.000	0.359	0.343
Method	237.227	1	15.744	0.000		

4.2 Frequency of TAF Use

The frequency of TAF used in the post AEW test for the experimental and the control groups was compared based on a scale. As depicted in Table 3, the use of 0 to 4 TAF is considered low (L), the use of 5 to 8 TAF is considered as moderate (M) while the use of 9 and more than TAF is considered as high (H). Figure 1 diagrammatically shows the frequency of TAF used by the experimental and control groups.

Table 3: Scale of TAF Use

Number of TAF Used	Scale	Label
0-4	Low	L
5-8	Medium	M
> 8	High	H

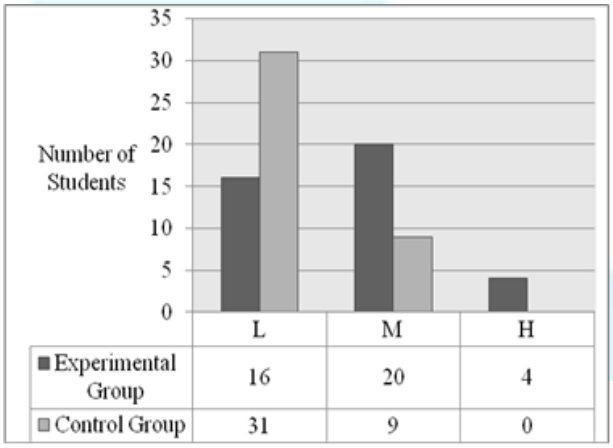

Figure 1: The Frequency of TAF Used

Based on Figure 1, it can be seen that sixteen subjects from the experimental group are considered low (L) TAF users, twenty subjects fall into the category of moderate (M) TAF users while four subjects are considered as high (H) TAF users. On the other hand, thirty one subjects of the control group are low TAF users (L) while nine subjects are moderate (M) TAF users. It can be concluded that after undergoing the treatment, the subjects from the experimental group had used more TAF in their post academic essay writing test compared to the control group. It can be concluded that DIAF encourages the subjects to use more TAF in their writing.

4.3 TAF used in the post AEW Test

Figure 2 diagrammatically shows the target academic formulas (TAF) and how frequent each of them was used during the post AEW test by the experimental and control groups. Out of the thirty target formulas, there are three which were not used by any of the subjects. The formulas are 'in response to', 'to distinguish between' and 'in accordance with'. As a whole, the formulas 'according to, 'a variety of' and 'there are several' are the most frequently used followed by the formula 'there are a few/many'. The formula 'according to' were used twenty nine times by the experimental group while the control group used the formula fifty five times. The formula 'a variety of' was used twenty five times by the experimental group and ten times by the control group. The formula 'there are several' was used twenty three times by the experimental group and nine times by the control group. The formula 'there are (three/a few/ many)' was used seventeen times by the experimental group and six times by the control group. It can be seen from Figure 1 that the experimental group used a wider range of target formulas compared to the control group. There are a number of TAFs which were used only by the experimental group. They are ' in relation to' (three times), 'from the point of view'(twice), 'the relationship between' (once), 'in conjunction with' (once), 'can be considered' (twice),

'with regerd to' (once), 'is/are/can be affected by' (twice), 'give rise to' (five times), 'as well as' (six times), 'appears to be' (five times), 'on the basis of' (once), 'in terms of' (nine times), 'due to the fact that' (eight times), 'as a consequence' (three times), 'due to'(ten times) and 'can be achieved' (once). The target formula 'there have/has been' was used ten times by the experimental group and four times by the control group. The formula 'there is no' was used five times by the
experimental group and twice by the control group. Finally, the formula 'as a result' was used elevan times by the experimental group while the control group had used it only once. It was found that although the control group was indirectly exposed to all the formulas during their lessons, they had used fewer TAF in the post AEW test than the experimental group. Other than the formulas 'according to' and 'there are some', the experimental group had used the TAF more frequently. It can be concluded that DIAF encourages the subjects to use TAF in their academic essays and the experimental group, which underwent the treatment used a more varied academic formulas in their essays compared to the control group.

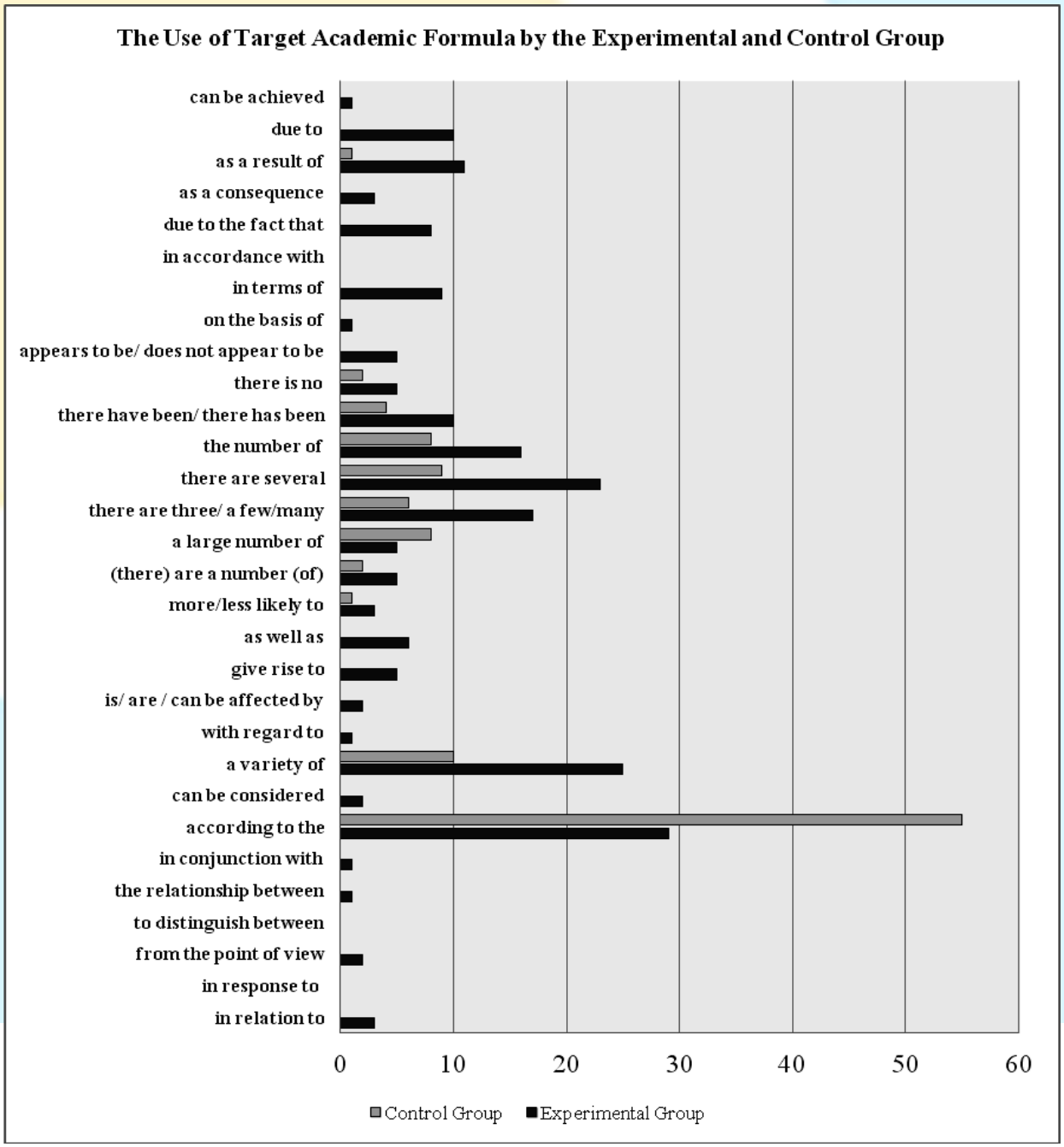

Figure 1: The Use of Target Academic Formulas (TAF)

4.4 Influence of other Variables

Based on the results of ANCOVA in section 4.0 it can be concluded that DIAF has a positive effect in improving the subjects' academic writing performance. However, DIAF can account for only 49.8% of the variances in 'language' component, 34.3% of variances in the 'organization' component and 'content'35.3% of the variances in the 'content' components. The subjects in this study were homogeneous in terms of their ethnic group, mother tongue, age groups, field of studies and length of exposure to formal ESL instructions. However, since the subjects come from intact groups, both the experimental and control groups consist of mixed-ability subjects. In addition, both groups have higher number of females compared to males. Thus, the influence of proficiency level and gender was determined by using the Analysis of Covariance (ANCOVA). ANCOVA was conducted to hold the subjects' proficiency level constant while determining the effect of DIAF on students' post AEW performance. Gender was used as fixed variable in the analysis. Table 4 shows the results of ANCOVA.

Table 3: Results of One-Way ANCOVA

Dependent Variable: Post_AEW_Experimental							
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	R^2	Adjusted R^2
Corrected Model	1928.584[a]	2	964.292	6.149	.005		
Intercept	17371.976	1	17371.976	110.773	.000		
PROFICIENCY	1196.426	1	1196.426	7.629	**.009**	0.249	.209
GENDER	489.666	1	489.666	3.122	**.085**		
Total	176406.250	40					
Corrected Total	7731.094	39					

The subjects' proficiency levels are based on the subjects' grades for the Intermediate English, a proficiency level English language course. The subjects attended the Intermediate English course, a pre requisite for the Academic Writing course, a semester prior to the study period. It can be inferred from the ANCOVA results that there is no significant difference in the mean score between male and female subjects when the subjects' proficiency levels are statistically controlled. However, there is a significant difference in the mean score according to the subjects' proficiency level. Drawing from the ANCOVA results which imply that proficiency level has significant effects on the post AEW test scores, a detailed examination of the post AEW test scores was conducted. The subjects from the experimental group were sorted according to proficiency level and their improvements (the difference between the pre and post AEW test scores) were examined.

Table 4: The Experimental Group's Improvement

Type of Improvement	**Percentage of Improvement (%)**				**Total (N)**
BIG	**25-27**	**27-29**	**30-32**	**33 and above**	
Number of Subjects	0	3	3	3	**9**
	Percentage of Improvement (%)				
AVERAGE	**11-13**	**14-16**	**17-19**	**20-24**	
Number of Subjects	1	2	4	4	**11**
	Percentage of Improvement (%)				
SMALL	**1-3**	**4-5**	**6-8**	**9-10**	
Number of Subjects	5	8	3	4	**20**
Total (N)	6	13	10	11	40

4.5 Identifying Learners Who Improve the Most

Since proficiency level was found to have some influence on the post AEW test scores, the subjects' improvement and their proficiency levels were compared. All subjects improved in the post AEW test. Table 4 provides details of the subjects' improvements. Based on the table, twenty subjects show 'SMALL' improvement, eleven subjects display 'AVERAGE' improvement while nine subjects show 'BIG' improvement in their post AEW test scores. Table 5 shows that none of the subjects from the 'Advanced' level has 'Big' improvement during the post AEW test. Two subjects show 'Average' improvement while one subject achieves 'Small' improvement. In contrast, four subjects from the 'Intermediate' level score 'Big' improvements, eight subjects show 'Average' improvement and twelve subjects achieve 'Small' improvement. Finally, five subjects from the 'Beginner' level achieve 'Big' improvement, one subject scores 'Average' improvement and seven subjects show 'Small' improvement.

Table 5: Improvement and Proficiency Level

Proficiency Level / Improvement	Advanced	Intermediate	Beginner	Total (N)
Big	**0**	**4**	**5**	**9**
Average	**2**	**8**	**1**	**11**
Small	**1**	**12**	**7**	**15**
Total (N)	**3**	**24**	**13**	**40**

4.6 Identifying TAF Users

Table 6 shows the relationship between TAF users and proficiency level. Students who used between one and four TAF in the post AEW test are considered 'Low' TAF users while those who used between five to eight TAF are considered 'Medium' TAF users while those who used more than 9 TAF are considered 'High' TAF users.

Table 6: TAF Users and Proficiency Level

Proficiency level / TAF User	Advanced	Intermediate	Beginner	Total (N)
High	0	2	2	4
Medium	1	16	3	20
Low	2	6	8	16
Total (N)	**3**	**24**	**13**	40

As depicted by Table 6, none of the subjects from the 'Advanced' level is 'High' TAF user after the treatment. Only one subject from 'Advanced' level is 'Medium' TAF user and two subjects are 'Low' TAF users. The subjects who used TAF the most were the 'Intermediate' proficiency level (24 TAFs in total). Two subjects are 'High' TAF users, sixteen subjects are 'Medium' TAF users while three subjects from the 'Intermediate' level are 'Low' TAF users.

Finally, it can be seen from the table that two subjects from the 'Beginner' level are 'High' TAF users, three subjects are 'Medium' TAF users while eight subjects are 'Low' TAF users. Based on the findings it can be concluded that 'Advanced' subjects are 'Low' TAF users despite going through the treatment. Although advanced subjects claimed that DIAF was useful in improving their academic writing skills during the focus group interview, they did not use many TAF in their essays. However, they still scored higher marks in the post AEW test. The 'Intermediate' subjects used the most TAFs in the post AEW test and improved their scores, and finally the Beginner' level learners used more TAF compared to 'Advanced' level learners and improved their scores although not as high as the 'Intermediate' level learners.

To better understand the situation, the focus groups' demography and the subjects' post AEW test scripts were examined closely.Whenever necessary, the findings from the focus group interview will be compared with the data gathered from the subjects' post AEW test scripts for triangulation purposes. The major question asked during the focus group interview was on whether the subjects had used the TAF in their post AEW test. Table 7 shows the focus groups' demography which includes their performance in the pre and post AEW tests and whether they were 'High', 'Medium' or 'Low' TAF users.

Table 7: The Subjects of the Focus Group Interview

Student ID	Subject	M=male F=female	Proficiency level	Pre AEW test scores %	Post AEW test scores %	Improvement	TAF user*
Focus Group 1							
0684	1A	F	Advanced	80	85	Small	M
9138	1B	F	Intermediate	52.5	80	Big	M
9894	1C	F	Beginner	35	72.5	Big	M
8912	1D	F	Intermediate	40	57.5	Average	L
Focus Group 2							
6314	2A	M	Advanced	80	90	Small	L
3014	2B	F	Intermediate	45	80	Big	M
3952	2C	F	Beginner	42.5	57.5	Average	L
8704	2D	F	Intermediate	50	67.5	Average	L

4.7 Response of The Advanced Learners

Both 'advanced' level learners admitted that they did not use many of the target formulas in their essays. Although they claimed that the formulas were useful and learning them beneficial, they did not make conscious effort to use the formulas in their writing. To better understand the situation, the subjects' demography (Table 7) and the subjects' post AEW test scripts were examined closely. It was found that the 'advanced' level subjects had used many low frequency non- target formulas in their essays. Since only the use of target formulas was counted, they were labelled 'Low' TAF users. Table 8 summarized the formula used by the 'advanced' subjects.

Table 8: Formula Use by Advanced Level Learners

Subjects	TAF User	TAF use	Non-target Formula from AFL	Other Formulas
1A (A)	M	according to (twice), as a consequence (once), a variety of (once) and due to (once)	the role of (once), the issue of (twice), the notion of (once)	in a nutshell (once), a slap on the wrist (once)
2A (A)	L	according to (twice) and as a result (once)	take into account (once), to ensure that (twice)	the onus is on us (once), on the other hand (once), at the end of the day (once), in a nutshell (once)

4.8 Response from the Intermediate Learners

Subjects 1B and 2B claimed that they had followed their teacher's advice and had memorized and practised using the formulas and had used the formulas that they could remember in the essays. Subject 1D claimed that she had used some TAF that she could recall in her essay while subject 2D claimed that she had used 'simple' phrases that she could use easily. Subject 1B (I) is an intermediate proficiency level learner. She scored 52.5 marks in the pre AEW test and 80 marks in the post AEW test, which indicates a 'Big' improvement in her scores. She was a 'Medium' TAF user and had used eight TAF during the post AEW test. However, a closer look at her post AEW test script reveals that she had also used five non-target formulas from the AFL and an expression not in the AFL which is 'in a nutshell'. Similarly, subject 2B (I) is an intermediate proficiency ESL learner who was a 'Medium' TAF user. She scored 45 marks in the pre AEW test and 80 marks in her post AEW test which means a 'Big' improvement. She had used six TAF in her post AEW test. However, upon closer scrutiny, her post AEW test script reveals that she had used five non-target formulas from the AFL and one formula which is not in the list. Subject 1D(I) is an intermediate proficiency learner and a 'Low' TAF user. She scored 40 marks in her pre AEW test and 57.5 marks in her post AEW test. She had used only four

TAF correctly, while another eight TAF were incorrectly used. She had also used an idiomatic expression which is not in the AFL. Subject 2D (I) is also an intermediate ESL learner. She scored 50 marks in the pre AEW test and 67.5 marks in the post AEW test. She had used altogether eleven formulas in her post AEW test. However, only three were correctly used and counted while six formulas were used incorrectly while two other formulas correctly used were non-target formulas. Table 9 summarized the formula used by the 'intermediate level subjects.

Table 9: Formula Use by Intermediate Level Learners

Subject	TAF User	TAF correctly used	TAF incorrectly used	Non-target Formula used
1B (I)	M	according to (twice), can be considered (once), there are several (once), appears to be (once), as a result (once), due to (once), in relation to (once)		the difference between, in some cases, can be found, it is difficult, as a whole in a nutshell
2B (I)	M	there are several (once), according to (twice), as well as (once), due to (once), more likely to (once)		it is necessary, this means that, can easily be, to ensure that, it is possible, in a nutshell,
1D (I)	L	according to (twice), as a result (once), there are several (once)	there are the number of, can be affect by, regarding to, as a sequence, in the relationship to, on the based, from viewpoint, can effect by	in a nutshell
2D (I)	L	a variety of (once), according to (twice)	in term of, due to fact, there are the number of, can effect by, this is give rise, can affected by	it is difficult, it is important

Subjects from the 'beginner' level admitted that they tried to follow what they practised in class but could not recall some of the target phrases. Subject 2C(B) admitted that she was confused on how to use the target formulas correctly and found it difficult to memorize long phrases. Their post AEW test scripts were examined and Table 10 summarizes the findings. Based on the table, it can be seen that both subjects from the 'Beginner' proficiency level had used many TAF in the post AEW test. However, some of them were incorrectly used. They were also found to have used some non-target formulas. Based on Table 7 (the subjects' demography), subject 1C (B) scored 35 marks in the pre AEW test and 72.5 marks in the post AEW test. She was a 'Medium' TAF user and had used in total thirteen TAF. However, only eight TAF were correctly used in the post AEW test while the use of another six TAF was incorrect. She had also attempted to use a common idiomatic expression 'in a nutshell' but had used it incorrectly as 'in the nutshells'. She had used one non-target formula from the AFL in her essay. Subject 2C (B) scored 50 marks in the pre AEW test and 67.5 marks in the post AEW test. She had used twelve TAF altogether but only four was correctly used and counted. Another seven TAF were incorrectly used and she had used one non-target TAF. Table 10 summarized the formula used by the beginner level learners.

Table 10: Formula Use by Beginner Level Learners

Subject	TAF User	TAF correctly used	TAF incorrectly used	Non-target Formula used
1C (B)	M	as a result (once), according to (twice), more likely to(once), as well as (once), due to (twice), there are several (once)	there is number of, can effect by, as a consequent, in the relationship to, in respond to, in the nutshells	it is difficult
2C (B)	L	according to (twice), there are several (once), a variety of (once)	there are large of number, is effect by, from viewpoint, with regarding to , there has being, as consequently, the relation between,	the difference between the

5. DISCUSSION

It was found that DIAF has beneficial effects on the subjects' academic writing performance since the experimental group improved significantly in all the three writing components ('content', 'language' and 'organization') while the control group only improved significantly in terms of 'content'. As asserts by Brown (2004), a writing test measures 'performance' but the results imply the subjects' writing ability or 'competence'. Thus, it can be concluded that DIAF can significantly improve the subjects' academic writing ability or competence. DIAF was found to have greater effects on 'language' and 'organization' components of the essay compared to 'content'. Since the subjects' knowledge of TAF was enhanced, the subjects' scores in the 'language' component of the AEW test had also improved. DIAF was also found to have improved the learners' organization skill in academic writing. Hyland (2012) points out that the use of academic formulas in writing can facilitate efficient communication since the formula used can structure an academic discourse by guiding the readers through a text. The study has provided some evidence to support Hyland's (2012) notion as the experimental group which underwent DIAF outperformed the control group in the 'organization' aspect of the AEW test.

However, the benefit of DIAF was obvious only on the 'intermediate' and 'beginner' level subjects. It was the intermediate level subjects who had utilised many TAF in their essays and had seen significant improvement in their AEW test scores

On the other hand, 'beginner' level subjects had attempted to use many TAF in their essays but were found to have used some of the TAF incorrectly. This may be due to insufficient exposure, as DIAF was conducted over a period of only six weeks. Their receptive knowledge of the TAF for 'beginner' level subjects had not developed into productive knowledge. Although they improved their scores in the post AEW test, the improvements were minimal.

'Advanced' level subjects claimed that DIAF had improved their vocabulary repertoire but it was found that they did not use many TAF in the post AEW test. Instead, the 'advanced' level subjects had utilized many low frequency non-target formulas. Although they found DIAF beneficial, the TAF selected were too easy and 'too common' for them. Furthermore, the 'advanced' level subject did not show much improvement in the post AEW test due to the fact that their pre AEW test scores were already very high. The use of low frequency formulas had contributed to the high marks scored by the 'advanced' subjects in the pre and post AEW tests. The findings were consistent with the findings by earlier research which had found that highly rated papers made use of higher number of formulas (Hawkey & Baker, 2004; Kennedy & Thrope, 2007; Ohlrogge, 2008, 2009).

Based on these findings it can be concluded that process-oriented writing approach incorporating direct teaching of the academic formulas (DIAF) is better at improving the students' knowledge of formulas and their academic writing performance than the process-oriented writing approach without DIAF. The findings of the study are consistent with previous intervention study which found that instruction of formulas has positive effects on receptive knowledge of formulas (Seesink, 2007; Yunus & Awab, 2011) and quality of academic essay (Siik, 2006). DIAF is beneficial at raising the learners' awareness of the formulas and promotes 'noticing'. Since 'noticing' is a requirement for learning, direct teaching of the formulas could expedite acquisition of these formulas.

It is generally acknowledged that frequency effect is the most robust effect in psycholinguistic investigation (Rastle, 2007; Tremblay, Darwing & Libben, 2011) and drawing on this knowledge and past research on the teaching of formulas, it can be concluded that direct instruction of the target formulas should provide students with repeated encounters of the formulas because as stressed by Kozlowski and Seymour (2003) chunks and language patterns need to be heard, written, spoken and read repeatedly so that they would become imprinted in the students' memory. Since vocabulary knowledge builds incrementally, to help build this knowledge requires several focused encounters in context and in classroom activities.

5.1 Future Recommendations

In order to cater to the needs of diploma level ESL learners whose proficiency is lower than expected of tertiary level students, the target formulas selected for this study were common expressions found in reports and assignments for diploma level courses. Although the study concludes that DIAF is more beneficial to lower level learners, the post AEW test scripts were only checked for the use of target academic formulas, which means the use of 'low frequency' academic formulas or other 'non-target' formulas from the academic formula list (AFL) were not counted as formula use. Due to this reason, advanced learners who had utilized 'low frequency' academic formulas or other formulas from the academic formula list (AFL) were labeled 'Low' TAF users. Thus, for future research the use of non-target formulas should also be recorded and compared to give better perspective with regard to the benefit of formula instruction.

In the study, the target academic formulas (TAF) were selected from pedagogic corpus. Although the study had utilized thematic reading comprehension passages to provide context, formula selection was not based on themes. Another potential area for research is the selection of target formulas according to themes. Thematic formula instruction may prove to be beneficial, and future researchers may be interested to conduct a study utilizing 'themes' as criteria for target formula selection.

5.2 Conclusion

The study has provided empirical evidence on the benefit of formula instruction integrated into an academic writing course with an institutionally imposed syllabus. The

findings of the study are important because they are able to help address pertinent issues beleaguering EAP teachers in Malaysia. The issue of low academic writing proficiency among tertiary level learners is a grave issue which if not immediately addressed may bring about long term consequences. Diversification of use in context, target students and pedagogical implementation allows a vast benefit in providing a solution to the extensive and multifaceted debate of academic writing problems affecting the Malaysian students pursuing tertiary education.

REFERENCES

[1] Al-Zahrani, M. S. (1998). *Knowledge of English lexical collocations among male Saudi college students majoring in English at a Saudi university* (Doctoral dissertation). ProQuest Dissertations and Theses database. (UMI No. 9825581).

[2] Bailey, A. L., & Heritage, H. M. (2008). *Formative assessment for literacy, grades K-6: Building reading and academic language skills across the curriculum*. Thousand Oaks, CA: Corwin Press.

[3] Biber, D., & Barbieri, F. (2007). Lexical bundles in university spoken and written registers. *English for Specific Purposes*, 26, 263-286.

[4] Biber, D., Conrad, S., & Cortes, V. (2004). Lexical bundles in university teaching and textbooks. *Applied Linguistics*, *25*(3), 371–405.

[5] Boers, F. & Lindstromberg, S. (2012). Experimental and Intervention Studies on Formulaic Sequences in a Second Language. *Annual Review of Applied Linguistics*, *32*, 83-110.

[6] Boers, F., Eyckmans, J., Kappel, J., Stengers, H. & Demecheleer, H. (2006). Formulaic sequences and perceived oral proficiency: putting a lexical approach to the test. *Language Teaching Research*, *10*, 245-261.

[7] Brown, H.D.(2004). *Language Assessment Principles and Classroom Practices*.NY. Longman.

[8] Coffin, C., Curry, M. J., Goodman, S., Hewings, A., Lilis, T. M., & Swann, J. (2003). *Teaching Academic Writing : A toolkit for higher education*. London: Routledge.

[9] Conrad, S. (2008). Writing Myth 6: Corpus-based research is too complicated to be useful for writing teachers. In J. Reid (Ed.), *Myths about teaching writing* (pp.115-139). Ann Arbor: University of Michigan Press.

[10] Coxhead, A. (2008). Phraseology and English for Academic Purposes: Challenges and Opportunities. In F. Meunier and S. Granger (Eds.), *Phraseology in language learning and teaching* (pp. 149-161). Amsterdam. John Benjamins.

[11] Creswell, J.W. & Plano Clark, V.L. (2008). *The Mixed Methods Reader*. London: Sage Publication Ltd.

[12] Durrant, P. & N. Schmitt (2010). Adult learners' retention of collocations from exposure. *Second Language Research*, *26*(2), 163-188.

[13] Ellis, N. C. (1996). Sequencing in SLA: Phonological memory, chunking, and points of order. *Studies in Second Language Acquisition*, *18*, 91–126.

[14] Ellis, N. C., & Schmidt, R. (1998). Rules or associations in the acquisition of morphology? The frequency by regularity interaction in human and PDP learning of morphosyntax. *Language and Cognitive Processes*, *13*.2/3, 307-336.

[15] Erman, B., & Warren, B. (2000). The idiom principle and the open choice principle. *Text*, *20*, 29–62.

[16] Foster, P. (2001). Rules and routines: a consideration of their role in task-based language production of native and non-native speakers. In Bygate, M.,Skehan, P. and Swain, M., (Eds.), *Researching pedagogic tasks: second language learning, teaching, and testing* (pp.75–93). Harlow, UK: Longman.

[17] Granger, S. (2011) From phraseology to pedagogy: Challenges and prospects. In T. Herbst, S. Schüller and Uhrig, P. (eds) (2011). *The Phraseological View of Language. A tribute to John Sinclair*. Berlin & New York: Mouton de Gruyter, 123-146.

[18] Hawkey, R., & Barker, F. (2004). Developing a common scale for the assessment ofwriting. *Assessing Writing*, *9*, 122-159.

[19] Hyland, K. (2012). Bundles in Academic Discourse. *Annual Review of Applied Linguistics*, *32*,150-169.

[20] Hinkel, E. (2004). *Teaching Academic ESL Writing: Practical Techniques in Vocabulary and Grammar*. Mahwah, New Jersey: Lawrence Erlbaum.

[21] Hoey, M. (2005). *Lexical Priming: A new theory of words and language*. New York: Routledge.

[22] Howarth, P. (1998). Phraseology and second language proficiency. *Applied Linguistics*, *19*, 22–44.

[23] Jamian, L. S., Sidhu, G. K., & Muzafar, M. (2008). Assessing UiTM TESL Students' Knowledge of Vocabulary. *Asian Journal of University Education*, *4*(2), 79-100.

[24] Kelley, M. J. (2008). The impact of weblogs on the Affective states and academic writing of l2 undergraduates. Unpublished PhD. Thesis. The Faculty of the Curry School of Education University of Virgina, U.S.A.

[25] Kennedy, C, & Thorpe, D. (2007). A corpus-based investigation of linguistic responses to an IELTS academic writing task. In L. Taylor & P. Falvey (Eds.), *Studies inLanguage Testing* (Vol. 19 IELTS Collected Papers, pp. 316-377).

[26] Keshavarz, M. H., & Salimi, H. (2007). Collocational competence and cloze test performance: A study of Iranian EFL learners. *International Journal of Applied Linguistics*, *17*, 81-92.

[27] Kozlowski, A., & Seymour, L. (2003). The importance of Collocation in English Language Teaching. *Contact*, *29*(3), 41-49.

[28] Leibowitz, B., Goodman, K., Hannon, P. & Parkerson, A. (1997). The role of a writing centre in increasing access to academic discourse in a multilingual university. *Teaching in Higher Education. 2* (1), 5-19.

[29] Lewis, M. (2000). *Teaching Collocation. Further Development in the Lexical Approach*. Boston: Thomson Heinle.

[30] Mathai, J., Jamian, L.S.& Nair, S. (2004) Assessing Malaysian University Students' English Vocabulary Knowledge. In Wilaiwan Khanittanan & Paul Sidwell, eds. *SEALSXIV: papers from the 14th meeting of the Southeast Asian Linguistics Society (2004), Volume 1*. Canberra, Pacific Linguistics, 2008, pp.219-237.

[31] Micheal, G. R. D., Dhillon, P. K., Jaafar, H. H., Umadevi, S., Askandar, R., Ghafar, N., et al. (2010).*EAP Crossing Borders*. Petaling Jaya, Malaysia: Pearson Longman.

[32] Mokhtar, A. A. (2010). Achieving Native-like English Lexical Knowledge: The Non-native Story. *Journal of Language Teaching and Research, 1*(4), 343-352.

[33] Nadarajan, S. (2011). The Challenges of Getting L2 Learners to Use Academic Words in their Writings. *Electronic Journal of Foreign Language Teaching , 8*(2) 184–200.

[34] Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge, UK: Cambridge University Press.

[35] Ohlrogge, A. (2008). *Academic vocabulary at the word and formula level: An examination of test taker discourse*. Unpublished Thesis. Michigan State University.

[36] Ohlrogge, A. (2009). Formulaic expressions in intermediate EFL writing assessment. In R. Corrigan, A. Moravcsik, H. Ouali, & K. M. Wheatley (Eds.) *Formulaic Language; Vol 2. Acquisition, loss, psychological reality , and functional explanations* (pp/ 387-404). Amsterdam, the Netherlands: John Benjamins.

[37] O'Farrell, C. (2005). The write approach: Integrating writing activities into your teaching. In G. O'Neill, S. Moore & B. McMullin (Eds.), Emerging Issues in the Practice of University Learning and Teaching. Retrieved from: http://www.aishe.org/readings/2005-1.

[38] Rastle, K. (2007). Visual word recognition. In M. G. Gaskell (Ed.), *The Oxford handbook of psycholinguistics* (pp.71-87). Oxford: Oxford University Press.

[39] Rayson, P. (2008). From key words to key semantic domains. *International Journal of Corpus Linguistics*, *13*(4), 519-549.

[40] Roever, C. (2012). What learners get for free: learning of routine formulae in ESL and EFL environments. *ELT Journal*, *66*, 10–21.

[41] Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics 11*, 129-158.

[42] Schmidt, R. (1993). Awareness and second language acquisition. *Annual Review of Applied Linguistics 13*, 206-226.

[43] Schmidt, R. (2001).Attention.In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 3-32). Cambridge University Press.

[44] Schmitt, N., Jiang, X., & Grabe, W. (2011). The percentage of words known in a text and reading comprehension. *Modern Language Journal, 95*, 26-43.

[45] Schoonen, R., Van Gelderen, A., Stoel, R., Hulstijn, J., De Glopper, K. (2011). Modeling the development of L1 and EFL writing proficiency of secondary-school students. *Language Learning, 6* (1), 31-79.

[46] Seesink, M. T. d. N. (2007). *Using Blended Instruction to Teach Academic Vocabulary Collocations: A Case Study*. Unpublished PhD thesis, West Virginia University, USA. Retrieved from: https://eidr.wvu.edu/files/4996/Neves_Seesink_MT_dissertation.pdf

[47] Siik, S. C. (2006). *The teaching of lexical collocations and its effects on the quality of essays and knowledge of collocations among students of Program Persediaan Ijazah Sarjana Muda Pendidikan of Institut Perguruan Batu Lintang Kuching.* Unpublished Master Thesis. Universiti Teknologi Malaysia, Sekudai Johor Bharu.

[48] Simpson-Vlach, R., & Ellis, N. C. (2010). An Academic Formula List: New Methods in Phraseology Research. *Applied Linguistics, 31*(4), 487-512. Retrieved from http//:www.applij.oxfordjournals.org

[49] Sinclair, J. & Renouf, A. (1988). A lexical syllabus for language learning. In R. Carter & M. McCarthy. *Vocabulary and language teaching* (pp.140-158). London: Longman.

[50] Sinclair, J. (1991). *Corpus, concordance, collocation*. Oxford, UK: Oxford University Press.

[51] Singleton, D. M. (2000). *Language and the lexicon: An introduction*. London: Oxford University Press.

[52] Snow, C.E., & Uccelli, P. (2009). The challenge of academic language. In D.R. Olson, & N. Torrance (Eds.), *The Cambridge handbook of literacy* (pp.112). Cambridge, New York.: Cambridge University Press.

[53] Speelman, C.P. & Kirsner, K. (2005). *Beyond the learning curve: The construction of mind*. Oxford: Oxford University Press.

[54] Tremblay, A., Derwing, B., Libben, G., & Westbury, C. (2011). Processing advantages of lexical bundles: Evidence from self-paced reading and sentence recall tasks. *Language Learning, 61*, 569–613.

[55] Willis, D. (2003). *Rules, Pattern and Words. Grammar and Lexis in English Language Teaching.* Cambridge: Cambridge University Press.

[56] Wood, D. (2010). *Formulaic language and second language speech fluency: Background,evidence and applications*. London: Continuum.

[57] Wray, A. & Perkins, M. (2000). (second author: Mick Perkins): The functions of formulaic language: an integrated model. [286kB] Language & Communication 20 (1): 1-28.

[58] Wray, A. (2002). *Formulaic Language and Lexicon*. Cambridge, UK: Cambridge University Press.
[59] Yunus, .K. & Awab, S. (2011).Collocational Competence among Malaysian Undergraduate Law Students. *Malaysian Journal Of ELT Research, 7*(1), 151-202. Retrieved from: www.melta.org.my
[60] Zhang, X. (1993). *English Collocations and Their Effect on the Writing of Native and Non- native College Freshmen.* Unpublished PhD Dissertation. Indiana university of Pennsylvania: Pennsylvania.

Author's Biography

Nor Ashikin Ab Manan* is an English language lecturer from the Academy of Language Studies, UiTM Perak, Malaysia. She is currently pursuing a doctoral degree from Universiti Sains Malaysia. She has a Masters degree from the University of Stirling, Scotland, U.K. and a Bachelor of Science from the Ohio States University, U.S.A. Her research interest includes learning strategies, teaching methodologies and language testing.

* Corresponding Author

Dr Paramaswari Jaganathan is a senior lecturer at the School of Languages, Literacies and Translation, Universiti Sains Malaysia. She has published several research articles in international journals. One of her publications is: Jaganathan, P., Mahfoodh, O.H.A., Lee, P. L. & Gan, P. H.(2013). Measuring Language Effects of Bilingual Advertisements on the Language Preference among Chinese students in a University. *New Media and Mass Communication, 18. Retrieved from:* www.iiste.org

Dr Ambigapathy Pandian is a Professor at the School of Languages, Literacies and Translation, Universiti Sains Malaysia. He has published numerous research articles in international journals and books. His latest international publication is***: New Literacies: Reconstructing Language and Education*** (2013) by Cambridge Scholars Publishing,UK.