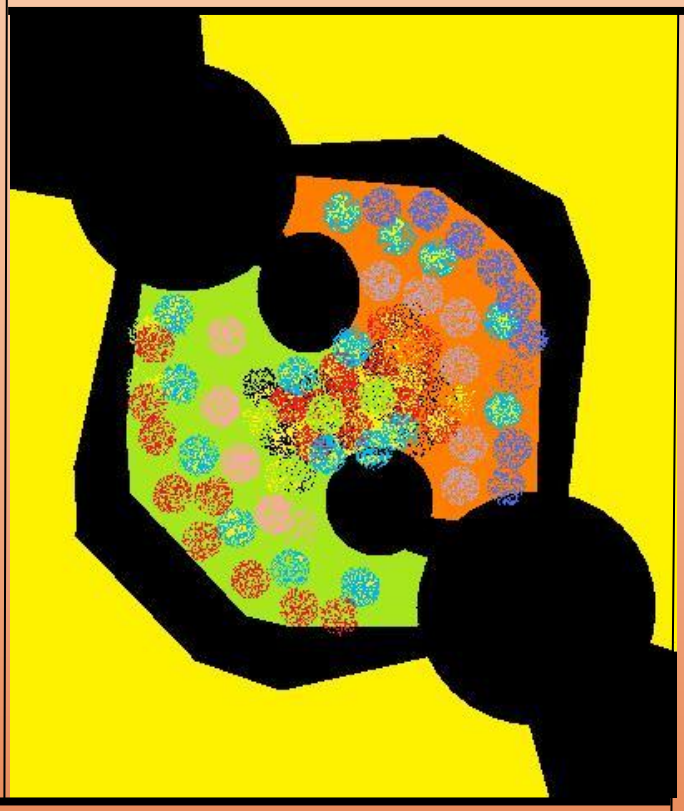
ISSN 2094-3938

TESOL Journal



Teaching English to Speakers of Other Languages

Time Taylor International Education

TESOL Journal: Volume 1, December 2009
Published by the Asian EFL Journal Press
Asian EFL Journal Press
A Division of Time Taylor International Ltd
TTI College
Episode Building 68-2
Daen Dong, Pusan, Korea
http://www.tesol.journal.com

asianefl@gmail.com
Editors: Paul Robertson

The TESOL journal is refereed and indexed in the Asian Education Index, Social Science Research Network, and Summons Serial Solution Index by Proquest.

The TESOL journal (ISSN 2094-3938) is published biannually by Time Taylor International.

This journal is part of the Asian EFL journal services. Access to on-line table of contents and articles is available to all researchers at http://www.tesol.journal.com for details.

About TESOL Journal

The TESOL (Teaching English to Speakers Of Languages) Journal is a new, refereed, and abstracted publication which aims at providing free on-line access to all those involved in the research, teaching and learning of English as an International Language.

The TESOL Journal is a unique journal for Language educators that are devoted to discussions on English as an International Language and its growth and development especially as it relates to the global spread of English language teaching and learning. Our global readership will include TESOL, ESL, and EFL teachers, linguists, students of language acquisition, language researchers, and others with a professional interest in English second language acquisition. Our goal is to bring information and articles to our readership on advances and research into Teaching English to Speakers of Other Languages.

The Journal is the sister journal to the long established Asian EFL Journal, Linguistics Journal, and Asian ESP Journal. We look forward to having you as a regular reader and or contributor.

We invite articles that are research-based and also address how EFL second language acquisition is taught in various contexts. Additionally, new literature will be reviewed to keep our audience informed of advances in the field.

Senior Associate Editor

EDITORIAL BOARD

TESOL JOURNAL
Volume 1, December 2009

Articles

Time Taylor International Schools

Self-Regulation and Approaches to Learning in English Composition Writing

TESOL Journal
Vol. 1, pp. 1-16

http://www.tesol-journal.com

Carlo Magno
De La Salle University, Manila, Philippines

Abstract

It is hypothesized in the present study that when learners are tasked to write a composition in a second language (such as English language for Filipinos), they use specific approaches to learning and eventually undergo self-regulatory processes. The present study tested a model showing the shift from process to outcome in writing (Zimmerman & Kitsantas, 1999) by assessing the path from approaches to learning to self-regulation (using path analysis) as used in composition writing in English. The Academic Self-Regulated Learning Scale (A-SRL-S) and the Revised-Learning Process Questionnaire (R-LPQ-2F) were administered to 294 college students major in English, communication arts, literature, mass communications, and journalism from different universities in Manila, Philippines. The results showed that: (1) Deep approach significantly correlated with the factors of self-regulation except for environmental structuring and seeking assistance while surface approach did not, (2) deep approach and surface approach was also significantly correlated, and (3) deep approach significantly increased the variance in all self-regulation components while surface approach only increased the variance in memory strategy. Further theoretical implications of the path model were explained.

Introduction

Individuals use a variety of learning strategies and approaches when they engage in a writing task. Such learning strategies used in writing are planning, idea-generating, self-evaluating, self-monitoring, and reflecting. When individuals start to write essays and other English discourses, they also engage in deep approaches to learning. Writers understand deeply what they are writing about, whether the task caters to their interest, seek further information, become motivated about the content, plan and organize their thoughts. This shows that strategies and approaches to learning are simultaneously used when engaging in writing tasks (Lienemann & Reid, 2008). Deep approach to learning is used in the composing or writing process. Deep approach to learning is adopted by the student according to the kind of learning task engaged in (Marton & Saljo, 1976a). If the learning task is writing, writers perceive the task requiring organization of thoughts and planning. In the same way, when self-regulation is used in composition writing, specific strategies are used in the writing process. There is simultaneous interplay of the learning

approaches and self-regulation in the writing process (Evans, Kirby, &, Fabrigar, 2003). The use of learning strategies becomes more evident when a second language is used to as a medium (Cummins, Kintsch, Reusser, & Weimer, 1988; Magno, 2009a; Stern, 1993).

Composition writing in English is a good context to study the relationship between self-regulation and learning approach because the specific approaches and strategies in learning are made apparent. Choosing composition writing as the context in the study is based on the following reasons: (1) The components of self-regulation and approach to learning are manifested in the composition process (Hayes, Hayes, & Hayes, 1981; Kellogg, & Raulerson, 2007; Olive, 2004). (2) The process in composition writing goes along with the self-regulation and approach to learning processes (Lienenmann & Reid, 2008; Plata, 2008; Pugalee, 2001). (3) Writing in a second language such as English makes the individual exert effort in the use of cognitive strategies such as self-regulation and approaches to learning (Marton & Saljo, 1976b; Kellogg, 2001; Hayes, Hayes, & Hayes, 1981; Kellogg & Raulerson2007). The present study investigated the relationship between self-regulation components and learning approaches in the context of English composition writing.

Approaches to learning are composed of deep and surface approach to learning (Kember, Biggs, & Leung, 2004). Deep approach was defined as the approach wherein the students actively and mentally engage their selves with the study material. Deep approach is supposed to be the result of intrinsic motivation, self-regulation and awareness of one's learning capacity. Deep approach is the intention to extract meaning, produces active learning processes (relating ideas, seeking patterns, etc) and monitoring the development of one's own understanding. Self monitoring is one of the keys to undergoing a self regulatory process due to the motivation to accomplish the goal that is set by the learner mainly about gaining deep understanding of the learning task. Deep approach favors western learners. They attribute success with ability and effort, they are not only interested in the learning task but they are interested in learning it well (Baugmart & Halse, 1999). On the other hand, surface approach involves memorization of the material that doesn't require understanding like memorizing a poem for instance. Surface approach is said to be the product of specific situational demands for learning tasks that brings about great pressure to the students. Students see this approach as a useful approach to surpass that anxiety. Surface approach is said to be more expected when the student is experiencing anxiety and due to a heavy work load. It is also present when reproducing information rewarded due to the result of the ways of assessment (Ramsden & Entwistle, 1981). The intention is the completion of the task, no intrinsic motivation is seen from the participants it is purely external and usually requires no high level of understanding such as routine memorization (Entwistle, McCune, &Walker, 2001). Surface approach favors learning of students mostly from Asian cultures. They are seen as compliant and they favor rote memorization. Though they are being perceived as such, they still manage to be successful and they attribute success with effort and not ability (Baumgart & Halse, 1999). Asians view surface approach to be functional in their learning because it brings about positive consequences for them (Magno, 2009b).

The specific subscales under deep approach include: (1) Intrinsic interest - this is the interest that is shown by an individual to a particular subject area such as love for literature; (2) Commitment to work – since there is interest students now become prepared to work on their studies, so this is sort of like the result of intrinsic interest. (3) Relating ideas - integrating ideas that an individual learns from the subject areas and recalling previous knowledge from past subjects that are related to the material being learned. (4) Understanding - this is the one that creates the distinction between surface and deep approach (Kember, Biggs, & Leung, 1999).

Surface approach includes: (1) Fear of failure - an individual's fear of not being able to complete the task or to complete the task but fear of humiliation for failing afterwards; (2) Aim for qualifications - extrinsic motivation plays a role, for example, the purpose of the task is to add value to a resume; (3) Minimizing the scope of the study- selective learning, cutting down all unnecessary details and going straight to the point. This may be an advantage for some but can also be a disadvantage. Individuals will decrease workload to decrease stress however they might be pushing away some opportunities for learning new material; (4) Memorization- Lowest form of thinking, purely recall and no understanding required (Kember, Biggs, & Leung, 1999).

Several studies distinguished deep approach with surface approach where deep approach positively correlated with academic tasks (August-Brady, 2005; Chun-Heung & French, 1997; Guthrie, Wigfield, & VonSecker, 2000). The present study includes Asian learners, most particularly Filipinos. A different pattern in the consequence of deep and surface approach was found among Asian Learners. The study by Bernardo (2003) about learning approaches and academic achievement of Filipino learners showed that surface motives and surface strategies highly loaded among low achieving students. In the same way, the study by Baumgart and Halse (1999) showed that the Asian samples favored surface approaches characterized by their deviation from independent thought and action. More recently, the study of Magno (2009b) showed that both surface and deep approach to learning increases the use of metacognitive strategies that reflects regulation of cognition. Watkins and Biggs (1996) explained that the effects of surface and deep approach serve as a misconception of Westerners in their view of Asians. Asians were perceived as rote learners where they only use surface approach to learning. These studies neglect a more functional view that Asian learners about surface approach as a functional approach to learning.

A person who is self-regulated is characterized to be an active problem solver and aims to improve his/her performance given their abilities. Individuals who self-regulate achieve tasks successfully because they make attempts to close the gap between their current status and goals (Leventhal & Cameron, 1987). According to Zimmerman (1986) self-regulation focuses on how students personally activate, alter, and sustain their learning practices in specific context. Self-regulation was applied in different contexts such as health, performance, sports, and academic setting.

There are several studies where self-regulation was applied in a specific context or made domain specific such as in language acquisition. Previous studies have identified self-regulation as a useful strategy to acquire and become proficient in a foreign language (Graham & Harris, 1994; Zimmerman & Risemberg, 1997). Aside from language acquisition, it is also useful in the process of writing.

Zimmerman and Kitsantas (1999) explained that writing competencies are sourced from social aspects such as writers that serve as models, teachers, and guidelines in proper writing. This shapes the role of the social cognitive theory in explaining the use of self-regulation skills in writing. In the said theory, writing competencies are first learned from models and then individuals start to write on their own through observation. Then what has been observed is emulated by the individual by acquiring and adopting the pattern and style of the model. The observation and emulation process in writing was studied by Zimmeman and Kitsantas (2002) and they found that students improved their writing techniques using the two strategies. As the student writer progress, they develop their own strategies in writing such as planning and self-monitoring which is already a stage of self-control. When the writer can adapt his/her own strategies according to some requirements such as changing tasks, audience, and intrapersonal states, they become self-regulated. Each stage in the writing composition stage requires the individual to be motivated in the task and processes as well as specific self-regulation components such as memory strategy, goal-setting, self-evaluation, seeking assistance, environmental structuring, responsibility, and organizing. These components of self-regulation that can be useful in any task such as writing were identified in the studies of Zimmerman and Martinez-Pons (1986; 1988; 1990).

Self-regulation in writing was demonstrated in the study of Zimmerman and Kitsantas (1999) where the participants who shifted in their writing revision activity from process to outcome goals were better than the participants who focused on outcome goals in their writing revision skill, self-reactions, self-efficacy perceptions, and intrinsic interest. Zimmerman and Kitsantas (1997) in their previous study found that shifting goals from process to outcome among learners had better results in their performance. The self-regulated strategy of shifting learning processes and strategies to outcomes makes the consequences of learning more positive. This indicates a direction in the writing composition activity that individuals who start with an effective process is matched with a better outcome. This theory suggests that learning approaches as processes can be used to help writers become self-regulated. This notion is further supported by the study of August-Brady (2005) where deep approach to learning and self-regulation both increased when a metacognitive activity (concept mapping) was introduced among participants. The analysis also showed that these two variables are covariates to each other given the effect of metacognition. The similar effects on deep approach and self-regulated learning suggest collinearity of these two variables which supports the hypothesis of their positive relationship. However, surface approach also increased as an effect of the metacognition task and it is also positively related to adaptive control beliefs which is a measure of self-regulation.

The flow from process to outcome is apparent in composition writing in English. There are several reviews indicating a host of process to outcome shift or from approach to learning to self-regulation. Lenski (1998) showed that writing involves planning, translating, executing, evaluating, and revising. The steps on planning, translating, and executing reflects approach to learning since it involves generating ideas, converting ideas into words, and writing the content. The self-regulation part is shown in the evaluation and revision where the writer judges what he/she thought about and correcting the inadequacy in the work. In the same way,

the study by Kellog and Raulerson (2007) explained that in order to achieve higher levels of writing performance (self-regulation), the working memory demands of writing processes should be reduced so the executive attention is free to coordinate interactions among them (approach to learning). This theory can be achieved through deliberate practice that train writers to develop executive control through repeated opportunities to write and by timely and relevant feedbacks.

Writing well in a second language would require more and higher cognitive skills to be able to write well. Kellog (2001) explained that the process would involve a test of a person's memory, language repertoire and thinking ability all at once. He further explains that it demands rapid retrieval of domain-specific knowledge about the topic from the long-term memory. This process mainly starts by understanding the topic to write about and processing it to be translated in the second language then translate this knowledge to become words. The framework of Kellog (2001) also indicates the same direction of approach to learning to self-regulation. Before the writing task is regulated through strategies, the writer needs to have a deep understanding of the conceptualization of what to write about. The present study would like to establish the direction of learning approach to self-regulation in the context of composition writing in English. Specifically, a path model showing the effect of deep and surface approach on each seven self-regulation components is tested.

Method

Research Design

A cross-sectional explanatory design was used in the present study. The study aims to test the theory showing the direction of approach to learning to self-regulation as it operates in a domain specific context of composition writing in English. The design is also cross-sectional because the questionnaires were administered to the participants at a single point in time (see Johnson, 2001).

Participants

The participants in the study were 294 college students major in English, Linguistics, Literature, and Communication Arts. These participants are college level students from different schools in Metropolitan Manila offering courses on English, Linguistics, Literature, and Communication Arts. The courses deal with several activities involving composition writing in English. The age bracket of the participants was from 18 -21 years. The criteria for inclusion in the sample includes taking the above courses namely English, Linguistics, Literature, and Communication arts and who are under 18-21 years of age. All of the participants should have written essays, research papers, or is currently working on their thesis and action papers within college.

Instruments

The Revised Learning Process Questionnaire-Two Factorial (R-LPQ-2F). The R-LPQ-2F was developed by Kember, Biggs, and Leung (2004) that measures

multidimensionality of approaches to learning. This is a twenty two item questionnaire that concerns one's deep and surface learning approach scores. There are 11 items for deep approach and 11 for surface approach. It is a five point Lickert scale ranging from always or almost always true of me to never or rarely only true for me. It construct validity has been tested with adequate goodness of fit values of CFI=0.804 and SRMR of 0.049. The revised learning process questionnaire was revised through changing the sentences to fit writing and not studying alone.

Academic Self-regulated Learning Scale (A-SRL-S). The A-SRL-S was derived by Magno (2009c) based on the model of Zimmerman and Martinez-Pons (1986; 1988). This is a 55 item questionnaire that measures students' academic self-regulation under seven subscales: Memory strategy, goal-setting, self-evaluation, seeking assistance, environmental structuring, responsibility, and organizing. The instruction to answer the items was modified to reflect activities on composition writing in English. The participants before answering were asked to think about their experiences in writing before, during, and after creating any form of English composition. The subscales of the A-SRL-S was confirmed in a measurement model with good fit (*RMR*=.02, *GFI*=.94, *CFI*=.91) with high internal consistencies. Convergent validity was established where the factors memory strategy, goal setting, and self-evaluation, seeking assistance, environmental structuring, organizing and responsibility increase significantly with each other.

Procedure

The *R-LPQ-2F* and A-SRL-S were administered to college students in Metro Manila that offer English, Linguistics, Literature, and Communication arts courses. The participants were asked first if they have composed any research paper, essays, or any form of written work before giving the set of questionnaires. In the instructions, it was emphasized that in answering the items, they need to think about their experiences before, during, and after engaging in a composition writing activity in English. After the participants completed the questionnaires, they were thanked and debriefed about the purpose of the study.

Data Analysis

All of the means and standard deviations for the Academic Self-Regulated Learning Scale (A-SRL-S) and Revised Learning Process Questionnaire Two Factorial (R- LPQ-2f) were calculated. The factors of self-regulation and learning approach were correlated to determine if they significantly increase with each other, this was done using the Pearson r.

Path analysis was used to test the path from the two factors of approach to learning (deep and surface) to the seven components of self-regulation. The goodness of fit of the model was indicated using the chi-square (χ^2), discrepancy function (χ^2/df), Root Mean Square Error Approximation (*RMSEA*), Goodness of Fit Index (*GFI*), and Adjust GFI (*AGFI*).

Result

Descriptive statistics of the two variables, self-regulation and learning approach were reported and correlations of self-regulation factors and learning approach were conducted using Pearson *r*.

Table 1
Means and Standard Deviation of Self-regulation and Learning Approach

	N	*M*	*SD*	*Cronbach's alpha*
Deep Approach	294	2.41	0.28	.78
Surface Approach	294	2.39	0.25	.52
Memory Strategy	294	3.34	0.16	.82
Goal-setting	294	3.3	0.27	.91
Self-evaluation	294	3.28	0.17	.90
Seeking Assistance	294	3.26	0.23	.90
Environmental Structuring	294	3.31	0.28	.89
Responsibility	294	3.31	0.26	.92
Organizing	294	3.3	0.25	.91

The Mean score for 294 participants was obtained for deep approach and resulted in 2.41 and standard deviation of 0.28 which indicated that the scores obtained were near to each other. The mean score for surface approach resulted in 2.39 and a standard deviation of 0.25. Memory strategy scored the highest among the factors of self-regulation. The factors of self-regulation showed high internal consistencies. Adequate internal consistency was also found for deep approach but not for surface approach to learning.

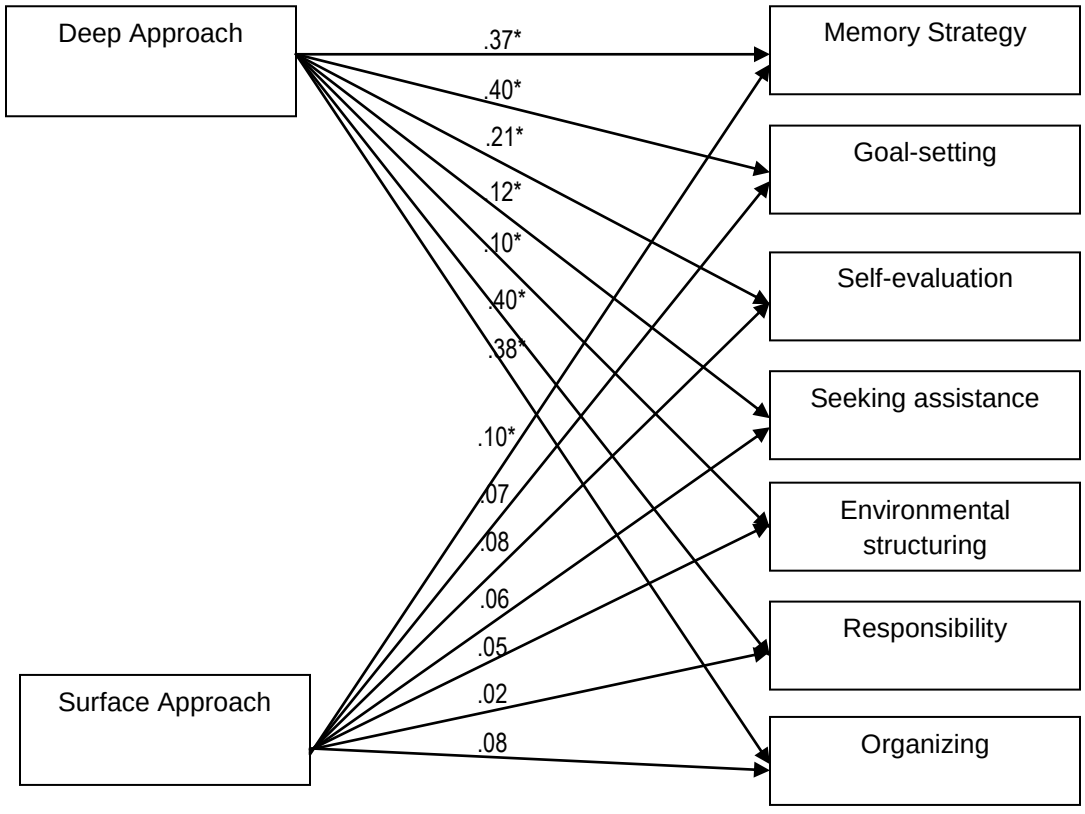
Table 2
Correlations among Factors of Self-regulation and Learning Approach

		1	2	3	4	5	6	7	8	9
(1)	Deep Approach	---								
(2)	Surface Approach	.11*	---							
(3)	Memory Strategy	.13*	.08	---						
(4)	Goal-setting	.14*	-.03	.19*	---					
(5)	Self-evaluation	.11*	.05	.80*	.8*	---				
(6)	Seeking Assistance	-.02	.02	.20*	.19*	.7*	---			
(7)	Environmental Structuring	-.03	-.05	.71*	.43*	.54*	.34*	---		
(8)	Responsibility	.16*	.01	.63*	.16*	.2*	.18*	.8*	----	
(9)	Organizing	.15*	-.05	.50*	.42*	.84*	.32*	.16*	.13*	---

*$p<.05$

The self -regulation factors correlated significantly with deep approach to learning except for environmental structuring and seeking assistance. The self-regulation factors were not significantly related to surface approach. The relationship among the factors of self-regulation to deep approach, although significant, were low to moderate with values .13 for memory strategy, .14 for goal setting, .11 for self-evaluation, .16 for responsibility and .15 for organizing and non-significant coefficients of -.02 for seeking assistance and -.03 and environmental structuring. All of the factors deep approach to learning did not have high correlation with self-regulation. In addition, self-regulation factors were all significantly correlated with each other. Deep approach and surface approach to learning were also significantly correlated with each other with a .11 correlation.

Figure 1
Path Model from Approaches to Learning to Self-regulation



When the path model was tested where both deep and surface approach directly affects each of the seven factors of self-regulation. The results showed that deep approach significantly increase the variance in all self-regulation strategies. Surface approach only significantly increased the variance for memory strategy. The goodness of fit of the model was adequate (χ^2=90.2, χ^2/df =2, ***RMSEA***=.01,

GFI=.94, Adjust GFI=.93). This means that the observations represent well the path model.

Discussion

The present study tested the shift from process to outcome as a strategy in writing by assessing the effect of approaches to learning on eight components of self-regulation. When the relationship between learning approaches and self-regulation was established, deep approach to learning significantly correlated to almost all components of self-regulation except for seeking assistance and environmental structuring. Surface approach consistently did not show any significant relationship with any of the components of self-regulation. However, when surface approach was correlated with deep approach, a positive direction was observed. The results of the path analysis is likely similar with the pattern of correlations. Deep approach to learning significantly increased all components of self-regulation. However, surface approach significantly increased memory strategy but not on other components. The difference in the effect of deep and surface approach is consistent with previous studies (Cantwell & Moore, 1996; Evan, Kirby, & Fabrigar, 2003; Winne, 1995).

The correlations indicate that surface approach did not correlate to any of the self-regulation components, but in the path model surface approach significantly increased memory strategies. Surface approach requires routine memorization and this entails the individual to use memory strategies. This direction showing routine memorization coupled with memorization strategy is described as a complementary match. This complementary match is appropriate because when the approach to memorize is at hand, the individual utilizes a complement strategy which is to memorize better. This describes the functionality of surface approach to learning especially when contextualized among Asians and writing in a second language. Rote memorization is useful when the outcome requires rote memorization as shown by the results. However, if the outcome does not require the rote memorization such in the case of other self-regulation strategies, then surface approach cannot be translated.

The results of the correlations showing the deep approach having no relationship with seeking assistance and environmental structuring shows the limitation of deep approach to learning as a process to translated into self-regulation outcomes. However, in the path model, the effect of deep approach to learning on all factors of self-regulation was significant but low path estimates for seeking assistance and environmental structuring. Environmental structuring and seeking assistance are strategies that require the manipulation of an external agent in order to be self-regulated as compared to other factors which are more intrinsic in nature allowing a divergent effect of deep approach to the components of self-regulation. This pattern indicates two things, first is the possible differences in the components of self-regulation and second, the effectiveness of deep approach on self-regulation. In the first account, different components of self-regulation behave differently when affected by a process variable such as deep approach to learning when contextualized into a writing composition activity. Previous studies also indicate differences in pattern of self-regulation components as affected by exogenous variables (ex. August-Brady, 2005; Evans, Kirby, & Fabrigar, 2003). The differing

effects of deep approach to learning on self-regulation can also explain in the domain-specificity of the task. In the present study, the responses to the measures are contextualized in composition writing in English where individuals translate process approach to effective outcomes such as self-regulation exhibiting a pattern. The writing activity as explained by Zimmerman and Kitsantas (1999) needs independent thinking and self-discipline which might not require too much help from others (seeking assistance). On the other hand, the writing activity may not require a too much manipulation of the environment as in the case of environmental structuring because the writer focuses on the task of writing rather than on the environment. The effectiveness of deep approach to learning may also explain the pattern of outcome for the components of self-regulation. Deep approach to learning when used does not turn out to be consistently effective for different ways of regulating the composition writing task. Deep approach may be effective for majority of the self-regulation aspects but weak in the translation on seeking assistance and environmental structuring. These self-regulation components may not require much of deep approach to learning such as intrinsic interest, commitment to work, and understanding.

Previous studies explain that surface approach have a different pattern among Asian learners where it is viewed to be functional (Baumgart & Halse, 1999; Bernardo, 2003; Magno, 2009b) and this was supported in the presented study because of the increase of deep approach with surface approach when they are correlated. The results in the study further clarify both the relationship of deep and surface and their effects on other factors such as self-regulation. It should be clearly noted that deep and surface approach increase together making both a functional approach but their effects on self-regulation are not the same. Learners may view these two approaches to be useful and relevant in the same way but their consequences are different. In the context of writing composition in English, the writer makes use of both deep and surface approach but the deep approach is a more powerful process that projects beneficial outcomes of being self-regulated. This means that when individuals start to write, all approaches when used as a process are functional such as high interest in a topic and at the same time being worried of not being able to do well in writing. Although in the consequence, individuals who have higher interest on the topic written are more able to use effective strategies that facilitate their writing process. On the other hand, being worried of not being able to write well could not resort to better strategies in writing.

The present findings further clarify more specific patterns for deep and surface approach especially when contextualized in a composition writing activity in English. It should be made clear that there is similarity in the function and usefulness of both deep and surface approaches in writing but their consequences are not. Previous findings about the divergent effects of deep and surface approach is limited in characterizing the concepts but the present study was able to show that their functionality and usefulness is distinct as to their consequences. This new pattern is made possible when a task involves writing as a function of a second language especially among Asian learners. Having conditions such as task and language making approaches to learning and self-regulation domain-specific finely show better patterns.

References

August-Brady, M. M. (2005). The effect of metacognitive intervention on approach to and self-regulation of learning in baccalaureate nursing students. *Journal of Nursing Education, 44*(7), 297-305.

Baumgart, N., & Halse, C. (1999) Approaches to learning across cultures: The role of assessment, *Assessment in Education*, *6*(3), 321-330.

Bernardo, A., (2003). Approaches to learning and academic achievement of Filipino students. *The Journal of Genetic Psychology, 164,* 101-114.

Cantwell, R. H., & Moore, P. J. (1996). The development of measures of individual differences in self-regulatory control and their relationship to academic performance. *Contemporary Educational Psychology, 21*, 500-517.

Chun-Heung, L., & French, P. (1997). Education in the practicum: A study of the ward learning climate in Hong Kong. *Journal of Advanced Nursing, 26*, 455-462.

Cummins, D. D., Kintsch, W., Reusser, K., & Weimer, R. (1988). The role of understanding in solving word problems. *Cognitive Psychology, 20*, 405-438.

Entwistle, N. J., McCune, V., & Walker, P. (2001). Conceptions styles and approaches within higher education: analytical abstractions and everyday experiences. In R. J. Sternberg & L. F. Zhang (Eds), *Perspectives on Thinking, Learning and Cognitive Styles*. Lawrence Erlbaum Associates, London.

Evans, C. J., Kirby, J. R., & Fabrigar, L. R. (2003). Approaches to learning, need for cognition, and strategic flexibility among university students. *British Journal of Educational Psychology*, *73*(4), 507-529.

Graham, S., & Harris, K. R. (1994). The role and development of self-regulation in the writing process. In D. H. Schunk & B. J. Zimmerman (Eds.), *Self-regulation of learning and performance: Issues and educational applications* (pp. 203-228). Hillsdale, NJ: Erlbaum.

Guthrie, J., Wigfield, A., & VonSecker, C. (2000). Effects of integrated instruction on motivation and strategy use in reading. *Journal of Educational Psychology, 92*(2), 331-341.

Hayes, F., Hayes, L., & Hayes, J., (1981). A cognitive process theory of writing. *College Composition and Communication, 32*, 365-387.

Johnson, B. (2001). Toward a new classification of non experimental quantitative research. *Educational Researcher, 30*, 3-13.

Kellogg, R. (2001). Long-term working memory in text production. *Memory and Cognition*, *29*, 43-52.

Kellogg, R., & Raulerson, B. (2007). Improving the writing skills of college students. *Psychometric Bulletin and Review*, *14*, 237-242.

Kember, D., Biggs, J., & Leung, D. Y. P. (2004). Examining the multidimensionality of approaches to learning through the development of a revised version of the learning process questionnaire. *Educational Psychology Journals, 74*, 261-279.

Lenski, S.D. (1998). Strategic knowledge when reading in order to write. *Reading Psychology, 19,* 287-315.

Leventhal, H., & Cameron, L. (1987). Behavioral theories and the problem of compliance. *Patient Education and Counseling, 10*, 117-138.

Lienenmann, T. O., & Reid, R. (2008). Using self-regulated strategy development to improve expository writing students with attention deficit hyperactivity disorder. *Reston, 74*(4)*,* 471-86.

Magno, C. (2009a). How I learned to speak English: Factors involved in ESL acquisition among Filipinos. *Philippine ESL Journal, 3*, 127-141.

Magno, C. (2009b). Investigating the effect of school ability on self-efficacy, learning approaches and metacognition. *The Asia-Pacific Education Researcher, 18*(2), 233-244.

Magno, C. (2009c). Developing and assessing self-regulated learning. *The Assessment Handbook: Continuing Education Program, 1*, 26-42.

Marton, F., & Saljo, R. (1976a). On qualitative differences in learning: I-Outcome and process. *British Journal of Educational Psychology, 46*, 4-11.

Marton F., & Saljo, R. (1976b). On qualitative differences in learning: II-Outcome as a function of the learner's conception of the task. *British Journal of Educational Psychology, 46,* 115-127.

Olive, T. (2004). Working memory in writing: Empirical evidence from the dual-task technique. *European Journal, 9*, 32-42.

Plata, S. (2008). Exploring students' self-assessment following the three-stage model of self-regulatory prompts in freshman composition. *Learning Edge, 5*, 30-52.

Pugalee, D. K. (May, 2001). Writing, mathematics, and metacognition: Looking for connections through students. *Business Network*, Retrieved March 15, 2009, from http://findarticles.com/p/articles/mi_qa3667/is_200105/ai_n8952546/pg_9?tag=content;col1

Ramsden, P., & Entwistle, N. J. (1981). Effects of academic departments on students' approaches to studying. *British Journal of Educational Psychology*, *51*, 368-383.

Stern, E. (1993). What makes certain arithmetic word problems involving the comparison of sets of difficult for children?. *Journal of Educational Psychology, 85*, 7-23.

Watkins, D. A., & Biggs, J. B. (Eds.) (1996). *The Chinese learner: Cultural psychological and contextual influences*. Hong Kong: CERC.

Winne, P. H. (1989). Internal details in self-regulated learning. *Educational Psychologists, 30*, 173-187.

Zimmerman, B. (1986). Becoming a self-regulated learner: Which are the key subprocesses?. *Contemporary Educational Psychology, 11*, 307-313.

Zimmerman, B. J. & Martinez-Pons, M. (1986). Development of a structured interview for assessing student use of self-regulated learning strategies. *American Educational Research Journal, 23,* 614-628.

Zimmerman, B. J., & Martinez-Pons, M. (1988). Construct validation of a strategy of student self-regulatory learning. *Journal of Educational Psychology, 80*(3), 284-290.

Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grades, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology, 82*(1), 51-59.

Zimmerman, B., & Kitsantas, A. (1999) Acquiring writing revision skill: Shifting from process to outcome self-regulatory goals. *Journal of Educational Psychology, 91,* 241-250

Zimmerman, B., & Kitsantas, A. (2002) Acquiring writing revision and self regulatory skill through observation and evaluation, *Journal of Educational Psychology, 94,* 660-668.

Zimmerman, B. J., & Risemberg, R. (1997). Becoming a self-regulated writer: A social cognitive perspective. *Contemporary Educational Psychology, 22*, 73-101.

Appendix A
Revised Learning Process Questionnaire (Adapted for Writing Task)

Deep approach (DA)

Deep motive (DM)

Intrinsic interest

I find that at times writing makes me feel really happy and satisfied.
I feel that nearly any topic can be highly interesting to write once I get into it.
I work hard at my compositions because I find the material interesting.

Commitment to work

I spend a lot of my free time finding out more about interesting topics which have been discussed in different classes. (13)
I try to write about things with questions in mind that I want answering.
I find I am continually going over my composition in my mind at times like when I am on the bus, walking, or lying in bed, and so on.
I like to do enough compositions on a topic so that I can form my own conclusions before I am satisfied.

Deep strategy (DS)

Relating ideas

I try to write about what I have learned in one subject relating to what I learn in other subjects. (2)
I like constructing theories by odd things together and write about it.

Understanding

I try to relate new material, as I am writing about it, to what I already know on that topic. (10)
When I write a composition, I try to understand what I mainly want to say. (14)

Surface Approach (SA)

Surface motive (SM)

Fear of failure

I am discouraged by a poor mark on my written work and worry about how I will do on the next writing activity.
Even when I work hard for an essay, I worry that I may not be able to do well in it.

Aim for qualification

Whether I like it or not, I can see that developing my writing skills is a good way to get a well-paid job.
I intend to get my high grades in my research reports because I feel that I will then be able to get a better job.

Surface strategy (SS)

Minimizing scope of study

I see no point in writing a material which is not likely to be graded by the teacher.
As long as I feel I am doing enough to pass my written compositions, I devote as little time to writing as I can. There are many more interesting things to do.
I generally restrict my writing to what is specifically set as I think it is unnecessary to do anything extra.
I find it is not helpful to write about topics in depth. You don't really need to know much in order to get by in most topics.

Memorization

I find it useful in writing to learn some things by rote, going over and over them until I know them by heart.
I find the best way to write is to try to remember unique words as much as possible.
I find I can get by in most assessment of my research reports by memorizing key sections from sources rather than trying to understand them.

Appendix B
Academic Self-regulated Learning Scale (Adapted for Writing Task)

Answer each item by first thinking about what you do before, during and after writing any reports, essays, and research.

Memory Strategy

I use note cards to write information I need to remember
I make lists of related information by categories.
I rewrite class notes by rearranging the information in my own words
I use graphic organizers to put abstract information into a concrete form.
I represent concepts with symbols such as drawings so I can easily remember them.
I make a summary of my readings.
I make outlines as guides while I am studying.
I summarize every topic we would have in class.
I visualize words in my mind to recall terms
I recite the answers to questions on the topic that I made up.
I record the lessons that I attend to.
I make sample questions from a topic and answer them.
I recite my notes while studying for an exam.
I write messages for myself to remind me of my homework.

Goal-setting

I make a detailed schedule of my daily activities.
I make a timetable of all the activities I have to complete
I plan the things I have to do in a week.
I use a planner to keep track of what I am supposed to accomplish
I keep track of everything I have to do in a notebook or on a calendar

Self-evaluation

If I am having a difficulty, I inquire assistance from an expert.
I welcome peer evaluations for every output.
I evaluate my accomplishments at the end of each study session.
I ask others how my work is before passing it to my professors
I take note of the improvements on what I do.
I monitor my improvements in doing certain task.
I ask feedback of my performance from someone who is more capable
I listen attentively to people who comment on my work
I am open to feedbacks to improve my work.
I browse through my past outputs to see my progress.
I ask others what changes should be done with my homework, papers, etc
I am open to changes based from the feedbacks I received.

Seeking Assistance

I use a variety of sources in making my research papers.
I use library resources to find the information that I need.
I take my own notes in class.
I enjoy group works because we help one another.
I call a classmate about the homework that I missed.
I look for a friend whom I can have an exchange of questions
I study with a partner to compare notes.

I explain to my peers what I have learned.

Environmental structuring

I avoid watching the television if I have a pending a homework.
I isolate myself from unnecessary noisy places
I don't want to hear a single sound when I'm studying.
I can't study nor do my homework if the room is dark.
I switch off my TV for me to concentrate on my studies.

Responsibility

I recheck my homework if I have done it correctly before passing
I do things as soon as the teacher gives the task
I am concerned with the deadlines set by the teachers
I prioritize my schoolwork over other activities
I finish all my homework first before doing unnecessary things.

Organizing

I highlight important concepts and information I find in my readings
I picture in my mind how the test will look like based on previous tests
I put my past notebooks, handouts, and the like in a certain container
I study at my own pace.
I fix my things first before I start studying
I make sure my study area is clean before studying.

Author Notes

Special thanks to Kristen Shayne Enrile, Justin Ramirez, and Miguel Baltasar for allowing the author access to their data for further analysis.

About the Author

Dr. Carlo Magno is presently an assistant professor the counseling and educational psychology department of De La Salle University, Manila, Philippines. His research interest includes self-regulation, learning approach, language learning, and metacognition. Further correspondence can be addressed to him at carlo.magno@dlsu.edu.ph

Vocabulary Learning Strategies of Filipino College Students across Five Disciplines

TESOL Journal
Vol. 1, pp. 17-27
©2009
http://www.tesol-journal.com

Alejandro S. Bernardo
University of Sto. Tomas, Philippines

Helen T. Gonzales
St. Joseph Kalasin School, Kalasin, Thailand

Abstract

This descriptive survey research investigated the use of 53 common vocabulary learning strategies (VLS) by 202 baccalaureate students across five disciplines: liberal arts and education (AB/Ed), computer science and engineering (CSE), business education (BE), hospitality management (HM), and allied medical science (AMS) in a comprehensive Philippine university. This study attempted to compare the strategies used by the subjects across disciplines and to uncover if significant differences existed as regards the category and frequency of the VLS. A researcher-designed inventory using Schmitt's (1997) taxonomy was used to gather pertinent data. The data on the frequencies of use of the five identified VLS namely: Determination, Social, Memory, Cognitive, and Metacognitive were compared to explore apparent differences using One-Way Analysis of Variance (*ANOVA*). Findings revealed statistically significant differences in the use of determination and social VLS across the disciplines. Another finding exhibited non-significant differences in the employment of memory, cognitive, and metacognitive VLS. The results also showed that the identified vocabulary learning strategies converged with each other. Scheffe- post-hoc procedure indicated significant differences between AMS and AB/Ed with AB/Ed using determination VLS with greater frequency and between AMS and CSE with AMS employing social VLS with lesser frequency. Correlation analysis also showed significant positive association between the VLS. This research could be best used by language faculty as means to improve students' vocabulary learning and acquisition.

Introduction

For the past decades, there has been a paradigm shift in the realm of language learning and teaching. Language educators have seen how positive the assimilation of strategies into the language learning process is through the growing number of researches conducted (Brown, 2000). Currently, researchers put more premium on the learners and how they learn not so much on the teachers and how they teach. The researchers that deal with foreign language learning are more interested in how learners process latest information and what learning strategies they use in comprehending texts and restoring information (Arani, 2005). They are

prompted by the notion that understanding the way people learn is so significant and is the key to educational reform (Riazi & Riasati 2007).

Rasekh (2003) posited that successful language learners have their own 'special way of doing it'. Oxford (1994) described these special ways as actions, behaviors, steps or techniques students use, often unconsciously, to improve their progress in apprehending, internalizing, and using their second language (L2). For Wenden (1991), learning strategies are any sets of operations, steps, plans and routines used by the learner to facilitate the obtaining, storage, retrieval, and use of information. For Arani (2005), all language learners use learning strategies either consciously or unconsciously when processing new information and performing tasks in the language classroom and since the classroom is likened to a problem-solving environment, learners attempt to find the quickest or easiest way to do what is required using language learning strategies. For Gu (2003), a learning strategy is an array of actions a learner employs to achieve a goal or task. Simply stated, these language learning strategies aid the learners in the process of mastering a target language and research findings have revealed that learners' skillful use of appropriate tactics leads to improved proficiency or achievement overall or in specific skill areas (Wenden, 1991).

Oxford (1990) is one of those who endeavored to present a very comprehensive taxonomy or classifications of language learning strategies. The key distinction in this taxonomy is that between direct strategies and indirect strategies. Oxford divided the direct strategies into three: memory strategies (used for storing and retrieving aspects of the target language); cognitive strategies (used for using the language and for understanding how it works); and compensation strategies (used for using the language despite gaps in knowledge). On the other hand, indirect strategies cover metacognitive strategies (used for planning, organizing, and evaluating learning); affective strategies (used for approaching the task positively); and social strategies (used for collaborating with others for assistance).

Contemporarily, a number of vocabulary learning strategies categories have been described and presented. For example, Schmitt's (1997) taxonomy which can be standardized as a test is utilized to elicit answers from students easily and is anchored on the theory of learning strategies and theories of memory. Furthermore, it is technologically simple and can be used with learners of diverse educational backgrounds and target languages, is rich and sensitive to variety of learning strategies and allows comparison with other studies. Though based on Oxford's (1990) model, Schmitt introduced another category called determination strategies. However, affective and compensation strategies were excluded as categories and some of the strategies were shifted to other groups (Jurkovic, 2006). Cognizant of these taxonomies, researchers incessantly endeavor to explore the VLS learners employ and other variables deemed to correlate with their use.

Considering the paramount importance of language acquisition techniques, this research was conducted with an attempt to discover what strategies are used most and least frequently by college students across five disciplines and to draw possible pedagogical implications from the findings. Peacock and Ho's (2008) study likewise provided the researchers the impetus to undertake this endeavor. Peacock and Ho investigated the use of 52 common language learning strategies by English for Academic Purposes students across 8 disciplines: Building, Business,

Computing, Engineering, English, Mathematics, Primary Education, and Science in a university in Hong Kong. The study compared and contrasted the strategies used across disciplines and examined relationships among strategies used, second language proficiency, age, and gender. Their study revealed that students from different disciplines employ strategies that differ in frequencies and categories. Further, the students' strategy use is found to be influenced by several factors like age, gender, and proficiency. This present study, however primarily aimed to identify the range, category, and frequency of vocabulary learning strategies of college students across five disciplines namely liberal arts and education (AB/Ed), business education (BE), computer science and engineering (CSE), allied medical sciences (AMS), and hospitality management (HM). Specifically, this investigation sought answers to the following questions: (1) What vocabulary learning strategies do the students from each of the five disciplines frequently or seldom use? and (2) How do the vocabulary learning strategy use of students from the five disciplines compare?

Comparing strategy use across five disciplines is based on the assumption that there are glaring differences as to the types and frequencies of use of the various word learning techniques. Different fields or disciplines demand differentiated instruction and require students to employ discipline-specific approaches to learning. Durrant (2009) for instance, averred that the vocabulary needs of students in arts and humanities are characteristically different from those students in other disciplines. The allied medical field on the other hand places emphasis on learning prefixes, suffixes, root words, combining forms of medical vocabulary as related to specific body systems. Hence, this paper assumes that vocabulary is also acquired using varied and self-directed ways. Furthermore, this study explores the possibility that students coming from different disciplines in any educational setting vary in terms of processing latest information and executing tasks in the language classroom and acquiring word learning strategies for helping themselves figure out the meanings of words on their own.

Results of this investigation will assist the language teachers and the academic community at large in the further improvement of the students' language proficiency. This study is deemed to indirectly raise the learners' level of awareness, make them recognize more effective learning strategies for a given circumstance, and propose to students an array of strategies and allow them to discern which ones are the best for them. Through this study, the language instruction in a university may also be improved since language teachers will become more mindful of which learning strategies of students need to be retooled and enhanced. It would also prompt the university to evolve more effective language programs that address the students' specific and individual needs.

Method

Research Design

This research is based on the premise that students employ diverse vocabulary learning strategies in comprehending and acquiring a wide range of vocabulary. Thus, this investigation draws theoretical support from Schmitt's (1997) taxonomy of vocabulary learning strategies categorized into five: Determination

(DET), Social (SOC), Memory (MEM), Cognitive (COG), and Metacognitive (MET).

The present study used the descriptive survey method to determine the vocabulary learning strategies employed by the students from each of the five identified disciplines and to elicit other pertinent information that might be required to answer future questions posed in this investigation.

Participants

Two-hundred fifty university students enrolled in English 2 (Communication Skills) in a comprehensive university were purposively selected to participate in the study. However, in the computation of data, only 202 instruments representing 80.8 per cent of the target number was considered for others were not appreciated because of incomplete answers. The student respondents were informed about the purpose of the investigation and were also requested to honestly and reflectively fill out the inventory since their answers reveal their personal use of second language learning strategies.

Instrument

The data required for this investigation were obtained through an author-made second language vocabulary learning strategies inventory (L2VLSI) developed based on Schmitt's (1997) model. A total of 53 common vocabulary learning strategies were identified in the questionnaire and were grouped as follows: 7 determination strategies, 8 social strategies, 24 memory strategies, 9 cognitive strategies and 5 metacognitive strategies. The questionnaire was tested and results showed that the 53 items of L2VLSI are reliable since there is a high level of distinction among persons/items along the measured variable (Person Reliability = 0.99; Item Reliability =. 95). It was also pre-tested to a number of respondents to ensure clarity of items and directions.

The questionnaire required the respondents to indicate how often they use a certain strategy. The extent of vocabulary learning strategy use was determined using indicators expressed on a six-point Likert scale: 1–never, 2–seldom, 3-occasionally, 4–often, 5–usually, and 6–always. In accomplishing the questionnaire, the respondents were simply instructed to indicate how often they have used a certain strategy whether in school, at home or in other places by checking the brackets that correspond to their answers.

Data Analysis

One-way *ANOVA* was performed to test if the mean uses of vocabulary learning strategies vary across the five disciplines. Subsequently, a multiple comparison test using Scheffe was done for each variable to determine where the differences lie. Correlation analysis was also conducted to test the relationship among the vocabulary learning strategies variables.

Results

Table 1 presents the summary of the use of vocabulary learning strategies (VLS) across the five disciplines.

The data show the application of varying VLS by the subjects. Close scrutiny of the data shows that determination VLS is the most preferred strategy by AB/Ed. CSE employed the most varied strategies; social, memory, cognitive, and metacognitive VLS. AMS, nonetheless was noted to use all the strategies occasionally with no special preference among the VLS. The findings also imply that there are myriad of VLS that can be used in language learning process and that there is not a single best strategy in vocabulary learning and students across disciplines employ different VLS. Put simply, students from a particular course use VLS they deem helpful and effective in unlocking discipline-specific vocabularies. The students from one discipline employ VLS that differ in categories and frequency and the choice and effectiveness probably depend on the task, the learners themselves, and the context. The findings are also indicative that the language classroom is responsible for providing students with opportunities to choose the individual strategies themselves or for exposing the learners to a wide array of VLS from which learners could select. The results also show that students who rarely use any of the VLS categories should be given further explicit instruction on VLS usage and enough motivation since failure to unlock unknown words might seriously impede their comprehension and result in poor linguistic performance.

One-Way Analysis of Variance (*ANOVA*) was used to establish if significant difference existed in terms of the preferred VLS the respondents employed. Generated data using *ANOVA* yielded *F* values of 4.49 for determination, 5.47 for social, 2.44 for memory, 1.40 for cognitive and 1.77 for metacognitive. Findings revealed statistically significant differences in the respondents' use of determination and social VLS. However, the data exhibited non-significant differences for memory (F=2.44, p=.05), cognitive (F=1.41, p=.23) and metacognitive (F=1.77, p=.14).

The data suggest that the non–significant differences of memory, cognitive, and metacognitive VLS may imply that the frequency of use of these VLS across disciplines are much the same or are correlative. Further, the non-significant difference in the use of metacognition may entail that the subjects least prefer the strategy and they lack awareness in its value as VLS. This result can have further teaching implications that is, teachers should encourage the students to learn how to use metacognition since it is an important VLS as it includes the ability to be in charge of one's own learning performance and it also underlies all other learning and memory strategies. Students must be provided training and opportunities to employ this VLS category since its use would affect better language acquisition.

Table 1
Summary of the Use of Respondents' VLS across Five Disciplines

Strategy	Discipline	*SD*	*F*	η^2
Determination	AB/Ed (n=19)	.64	4.49**	.08
	BE (n=39)	.59		
	CSE (n=21)	.51		
	AMS (n=76)	.65		
	HM (n=47)	.76		
Social	AB/Ed (n=19)	.78	5.47**	.10
	BE (n=39)	.77		
	CSE (n=21)	.57		
	AMS (n=76)	.63		
	HM (n=47)	.79		
Memory	AB/Ed (n=19)	.78	2.44*	.05
	BE (n=39)	.77		
	CSE (n=21)	.57		
	AMS (n=76)	.63		
	HM (n=47)	.79		
Cognitive	AB/Ed (n=19)	.96	1.4	.03
	BE (n=39)	.74		
	CSE (n=21)	.82		
	AMS (n=76)	.89		
	HM (n=47)	.99		
Metacognitive	AB/Ed (n=19)	.97	1.77	.04
	BE (n=39)	.87		
	CSE (n=21)	.88		
	AMS (n=76)	.93		
	HM (n=47)	.93		

To explore the association between the VLS and the disciplines, Eta^2 was computed. Examination of the results shows that there existed strong association between social VLS and the disciplines as revealed by Eta^2 of .10. This also holds true between determination VLS and the disciplines where computed Eta^2 is .08. From the values, it may be deduced that social and determination VLS can be employed as efficacious vocabulary learning by the L2 learners.

Since the F-test disclosed only the existence of significant difference, not where the difference lies, Scheffe-post-hoc procedure was used to analyze the significance of difference between pairs of means in the use of determination and social VLS. Table 2 presents the results of Scheffe test for determination VLS.

Table2
Scheffe Test for the Respondents' Determination VLS

BI1	*N*	Subset for alpha = .05	
	1	2	1
AMS	76	3.43	
HM	47	3.64	3.64
BE	39	3.77	3.77
CSE	21	3.81	3.81
AB/Ed	19		4.05
Sig.		.28	.20

The findings show that marked variation is between AB/Ed and AMS as indicated by the p-value of .002 which is way below the alpha level of .05. This implies that AB/Ed subjects employ determination strategies more often than do the AMS respondents.

The Scheffe test results also revealed significance of difference in the respondents' use of social strategies. Table 3 shows that the significant difference is attributed between CSE and AMS where *p*-value is .00. The data indicate statistically marked difference between CSE and AMS with the AMS group using social VLS less frequently than do CSE respondents.

Table 3
Scheffe Test for the Respondents' Social VLS

	N	Subset for alpha = .05	
BI1	1	2	1
AMS	76	2.98	
BE	39	3.17	3.17
HM	47	3.39	3.39
AB/Ed	19	3.40	3.40
CSE	21		3.68
Sig.		.24	.10

Correlation Analysis was also conducted to test the relationship among the vocabulary learning strategies variables. Table 4 records the statistical analysis that yields significant positive correlations between VLS.

Table 4
Correlation Coefficients among the Vocabulary Learning Strategies

VLS	1	2	3	4	5
(1) Determination	---				
(2) Social	.48**	---			
(3) Memory	.67**	.62**	---		
(4) Cognitive	.50**	.60**	.74**	---	
(5) Metacognitive	.48**	.41**	.70**	.66**	---

** $p<.01$

Worth noting is the correlation coefficient (.74) between cognitive and memory VLS, that denotes strong correlation in the positive direction. Stated differently, the degree of association indicates greater strength of correlation since .74 is closer to 1.00. The more frequent the subjects use cognitive VLS, the frequency of using memory VLS also increases.

In a similar vein, the following correlation coefficients of .67 (between memory and determination VLS), .62 (between memory and social VLS), .70 (between memory and metacognitive VLS), and .66 (between metacognitive and cognitive VLS) also revealed statistically strong positive correlations. From the data, it can be inferred that merging or using these VLS may bring about better English vocabulary acquisition.

Between VLS with correlation coefficients of .48 (social and determination VLS), .50 (cognitive and determination VLS), .48 (metacognitive and determination VLS), .41 (metacognitive and social VLS), and .60 (between cognitive and social VLS) ,the data are indicative of having degrees of association of moderate positive correlation. Language mentors may yet find them as invaluable learning strategies to facilitate teaching English vocabulary among L2 learners.

Discussion

This paper reports what learners do to help themselves learn a second language and introduces the concept of strategies which researches have shown that active and successful language learners use. Hence, after comparing the five disciplines with respect to their reported use of 53 VLS, it was found that there is a significant variation in the learners' attempt to acquire English vocabulary and to improve their strategic and linguistic competence.

Preference of determination and social VLS by the subjects across the 5 disciplines in vocabulary learning and acquisition revealed statistically significant differences although the respondents claimed they employed other identified VLS.

Correlation analysis showed that the choices of using all the 5 VLS were associated, thus, it is highly recommended that language teachers support and assist their students to foster communication skills development by training them to use varied VLS and to discover for themselves which of the strategies would be most beneficial for their learning. Orchestration of multiple VLS will help students decide that which may best suit them.

This study clearly shows that one discipline (AMS) ranked the lowest in four categories which may be explained by their lack of awareness of the different word learning strategies. This implies that more deliberate efforts have to be exerted in teaching AMS how to effectively and confidently use these second language learning strategies. In addition, for all the learners, regardless of discipline, to appropriately and flexibly use the abovementioned strategies, it is imperative that they be provided fundamental knowledge as regards the nature of language learning processes (Wenden, 1991). The results must also prompt the university to make critical decisions as regards how the students can be further assisted in learning the vocabulary they need to functionally acquire conceptual knowledge in the different disciplines.

As stated earlier, results of this study entail that explicit teaching of various vocabulary learning strategies to students is crucial and that teachers must expose them to varied L2 learning techniques and train them how to effectively use these by applying discipline-specific strategy where appropriate. On the other hand, those disciplines that use the most strategies must be provided with more challenging activities, enrichment exercises, and classroom situations that call for the optimal use of vocabulary learning techniques.

A more profound implication of this study could be that teachers obtain baseline information on students' learning processes which include the learning strategies they use, what they know about language learning, and their determination to become independent learners. This information must serve as bases for the identification of content, materials, and pedagogy that suit the needs of the learners. In other words, the plan of actions that any educational institution would undertake must be anchored on the careful investigation of the learners and their environment (Wenden, 1991). Further, it may be suggested that teachers consider the premise that learners come in the classroom with broad range of differences and each of these variations has implications for teaching and learning.

The present study may also prompt language instructors to promote strategies-based instruction (SBI) or learner strategy training (Mc Donough, 1999). Through this, one of the most important goals of language teaching – learners' autonomy, would be better facilitated since they will be taught the technical know-how of acquiring a language and sensitized to the significance of taking charge of their own learning (Brown, 2000).

Hence, it is essential that teachers and even students themselves are cognizant of the various VLS and how they vary considerably within individuals as well as across individuals. The need to teach students strategic activities to improve their power to unlock unfamiliar words and effectively learn a language as well with or without the teachers' presence or intervention remains to be well-advised. It is also of prime importance that students have a full grasp of word meaning since functional understanding of terms, discipline-related or not, leads to effective

comprehension which can be attained through functional use of varied VLS. It is very true that the students' scholastic success or achievement in their chosen field also greatly depends on wide vocabulary acquisition.

In view of this, language teachers have to start with knowing what their students *do, can do, do not do,* and *cannot do*. They have to discover if their students know how to carefully look at words and decide how to pronounce them, use context clues to arrive at meanings of unfamiliar words, know how to use the dictionary and thesaurus, enjoy learning new words or they simply ignore terms that they don't know etc. In other words, teachers must know where their students are vis-à-vis word learning techniques so that they would know what to reinforce, re-teach, or introduce. This can only be done if teachers have sufficient understanding of the kind of strategies students employ and if they themselves can strategically and flexibly model and teach the different VLS.

Conducting investigations on the VLS of students would yield relevant findings in relation to students' strengths and weaknesses along the line of language development. Involving the learners by asking them to reflect on their own practices and assess themselves in regard to variables under study would prove useful in delivering classroom instruction. Results of which would also be a sound basis for school-wide program development and implementation.

Finally, it is strongly suggested that language practitioners, educational managers, instructional materials developers, curriculuralists, and classroom teachers must have inventories and data banks of language functions readily available and easily accessible. Strategy inventories can serve as very useful references and guide in the planning for teaching and learning experiences and development of teaching materials that eventually result in learners' ability to process information independently (Wenden, 1991).

References

Arani, J. A. (2006). *Learning strategies of English medical terminologies in the students of medicine.* Retrieved August 9, 2008, from http://www.esp-world.info/Articles_13/DOC/ Learning% 20Strategies_JA.doc

Brown, H.D., (2000). *Principles of language learning and teaching*. New York: Addison Wesley Longman, Inc.

Durant, P. (2009). Investigating the viability of a collocation list for students of English for academic purposes. *English for Specific Purposes*, 28(3), 157-169.

Gu, P.Y. (2003). Vocabulary learning in a second language: Person, task, context, and strategies. *Teaching English as a Second or Foreign Language- EJ, 7*(2), A-4.

Jurkovic, V. (2006). *Vocabulary learning strategies in an ESP context*. Retrieved September 3, 2007, from http://www.sdutsj.edus.si/ScriptaManent/2006_1/Jurkovic.pdf

McDonough, S. (1999). Learner strategies. *Language Teaching, 32,* 1-18.

Oxford, R.L. (1990). *Language learning strategies. What every teacher should know*. New York: Newbury House.

Peacock, M. & Ho, B. (2003). Student language learning strategies across eight disciplines. *International Journal of Applied Linguistics*, *13*(2), 179-200.

Rasekh, Z.E. (2003). Metacognitive strategy training for vocabulary learning. *Teaching English as a Second or Foreign Language- E,J*., *7*(2), A-1.

Riazi, A. & Riasati, M. (2008). Language learning style preferences. A students' case study of Shiraz EFL Students. *The Iranian EFL Journal, 1*, 156-82.

Schmitt, N. (1997). *Vocabulary learning strategies*. Cambridge: Cambridge University Press.

Wenden, A. (1991). *Learner strategies for learner autonomy*. Maryland: Prentice-Hall.

About the Authors

Alejandro S. Bernardo has been teaching English for nine years. At present, he is a member of the Faculty of Arts and Letters of the University of Santo Tomas, Manila, Philippines. He is finishing his Ph.D. in English Language Studies at the same university. His research interests include vocabulary acquisition, Philippine English, and developmental reading.

Helen T. Gonzales has taught English and social sciences in the Philippines and in other Asian countries. She is finishing her Ph.D. in English Language Studies at the University of Santo Tomas, Manila, Philippines. At present she teaches at St. Joseph Kalasin School, Kalasin, Thailand.

Tagalog-English Code-Switching in English Language Classes: Frequency and Forms

TESOL Journal
Vol. 1, pp. 28-42

http://www.tesol-journal.com

Ariane Macalinga Borlongan
Department of English and Applied Linguistics
De La Salle University

Abstract

This study looks at Tagalog-English code-switching practices of teachers and students in English language classes in Metro Manila schools in the Philippines. A total of 14 English language classes whose discourses have been transcribed were analyzed to determine how frequent teachers and students code-switch in those classes and bring to light the forms and functions of the code-switches of both the teachers and students. The analysis of the data reveals that most English language teachers in the sample (11 out of 14 or 78.57%) code-switch – and therefore "violate" the implementing policy – and they code-switch in around less than 5 to almost fifty utterances or a little less than fifteen, at the average, in the entire class session. students also have their share of code-switching in class sessions. All classes recorded at least more than one instance of code-switched utterances. However, though the instances of code-switching could be claimed to be significant, one's tendency to code-switch is more of an individual-specific trait. Tagalog-English code-switching in the data are most in the form of – or strategy – smooth-code-switching, at almost four-fifth of the total number of code-switches in the data. Constituent insertion follows but very, very from smooth switching. Nonce borrowings and non-smooth switches are relatively few.

Today, the implementing 1987 Constitution, Article IV, Sections 6-9, has this to say:

> Section 6. The national language of the Philippines is Filipino. As it evolves, it shall be further developed and enriched on the basis of existing Philippine and other languages. Subject to the provisions of law and as the Congress may deem appropriate, the Government shall take steps to initiate and sustain the use of Filipino as a medium of official communication and as language of instruction in the educational system.
>
> Section 7. For purposes of communication and instruction, the official languages of the Philippines are Filipino and, unless otherwise provided by law, English. The regional languages are the auxiliary official languages and shall serve as auxiliary

> media of instruction therein. Spanish and Arabic shall be promoted on a voluntary and optional basis.
>
> Section 8. This constitution shall be promulgated in Filipino and English and shall be translated into major regional languages, Arabic, and Spanish.
>
> Section 9. The Congress shall establish a national language commission composed of representatives of various regions and disciplines which shall undertake the, coordinate, and promote researches for the development, propagation, and preservation of Filipino and other languages.

And the Bilingual Education Policy of 1987 – originally promulgated in 1974 – in particular aims for an enhanced learning through English and Filipino and the development a bilingual nation competent in the use of both English and Filipino. A clear separation of the use of English and Filipino in schools was made: English is to be used as the language in teaching English, mathematics, and science while Filipino is for other subjects. The only difference of the 1987 promulgation from that of 1974 is that the latter allows for the use of major vernaculars in Grades I and II.

Current president Gloria Macapagal-Arroyo has once again highlighted (the importance of) English by issuing Executive Order 210, an order establishing the policy to strengthen the use of English as the language of instruction as she deemed it necessary "to develop the aptitude, competence and proficiency of our students in the English language to maintain and improve their competitive edge in emerging and fast-growing local and international industries, particularly in the area of Information and Communications Technology [ICT]".

Alternative Views on Code-Switching in Philippine Education

Though the current policies – both the 1987 Bilingual Education Policy and the recent order from President Gloria Macapagal-Arroyo – do not, in any way, argue against code-switching in teaching and learning, the classic interpretation and usual implementation of these policies have always precluded code-switching as a language mode in Philippine classrooms. The understanding is that both teachers and students would use *solely* English in English language, mathematics, and science classes and *solely* Filipino in all the others. Teachers are reprimanded by their supervisors and other superiors when observed to be code-switching during teaching while students are penalized for speaking the unwanted language in class. And while the policies have only indicated English language, mathematics, and science classes as English-using classes, the want to be more proficient in English has prompted quite numerous schools to adopt the very popular English-only

policies throughout everyone's stay inside the school, except in the designated Filipino-using classes.[1]

While this has mostly been the situation, more progressive ideas as regards the use of code-switching in Philippine education have recently been espoused by some scholars and educators, more prominently by Professor Allan B. I. Bernardo of De La Salle University and Dr. Isabel Pefianco Martin of the Ateneo de Manila University. In a paper dated 2005, Bernardo proposed:

> code-switching can be a legitimate and potent resource for learning and teaching for bilingual students and teachers, and that we [Filipinos in general and stakeholders in Philippine education in particular] should relax our language prescription in formal school environments to allow students and teachers to benefit from the use of this *efficacious* resource of developing knowledge and understanding. [emphasis added] (p. 163)

Martin (2006a, 2006b) provides empirical support for Bernardo's (2005) proposal through an examination of tertiary-level classroom discourse. She audio- and video-taped two cases where general education science is taught to freshmen students in two private, non-sectarian universities in Manila, the Philippines. The analysis of the transcriptions of the classroom discourses revealed that code-switching does not prohibit facilitating learning in Science nor achieving proficiency in English. In fact, her data suggested code-switching to be useful in teaching and learning, as it motivates student response and action, ensures rapport and solidarity, promotes shared meaning, checks student understanding, and maintains teacher narrative.

> In making policies on language in education therefore, Bernardo (in press) suggests: what is needed in multilingual educational communities is a *creative and pragmatic* approach to defining how language could be used in facilitating student learning and achievement. The approach may need to allow the various agents in the learning process to *flexibly* negotiate how the various proficiencies could be best appropriated in specific learning episodes and contexts. [emphases added] (p. 8-9)

He furthers that multilingualism should not be seen as a problem therefore; but rather, it should be regarded as a rich resource in education and teaching and learning that could promote student achievement. Taking it from the paradigm of pedagogy of multiliteracies (The New London Group, 2000), Bernardo (2007) predicts that a holistic understanding of the socio-psycholinguistic reality of multilingualism in the Philippines should make teaching and learning in Philippine schools, colleges, and universities empowering in terms of efficient use of language in communication on the part of the students.

The Present Study

Proposals to consider code-switching as a resource in teaching and learning – such as those of Bernardo (2005, 2007, in press) and Martin (2006a, 2006b) in Philippine

[1] Bernardo's (2007) paper entitled *Language in Philippine Education: Rethinking Old Fallacies, Exploring New Alternatives amidst Globalization* provides a more generic discussion of the issues on language(s) and language policies in Philippine education.

education – is understandable in content subjects; however, the question on whether or not code-switching should be allowed in teaching and learning is a question more difficult in the context of the teaching of languages. Definitely, teachers of science and mathematics, for example, have significantly different teaching and learning objectives from language teachers. They are not concerned with their students' (acquisition and) learning of languages. On the contrary, teachers of languages are. The traditional assumption is that language teachers should – as much as possible and as far as practicable – provide more opportunities for the use of the target language.

The discussion above makes obvious a clear gap in what is to be done with code-switching in English language teaching – at least in Philippine education. There seems to be little that has been done in research on Tagalog-English code-switching in English language teaching, much less on theorizing and – maybe as a result of these circumstances – policy-making on code-switching in this context.

Objectives

This study hopes to fill this gap by looking at Tagalog-English code-switching practices of teachers and students in English language classrooms in Metro Manila, the Philippines. A total of 14 English language classes whose discourses have been transcribed were analyzed to answer the following questions that have often been asked as regards code-switching in the Philippines:

1. How frequent do teachers and students in English language classes code-switch?
2. How do teachers and students in English language classes code-switch?

Data

This study analyzed the texts containing the speech of Filipino teachers of English (and their students in several class sessions) contained in the corpus of Filipino teacher language[2] compiled at De La Salle University, Manila, the Philippines in an attempt to answer the questions posed earlier. The use of a corpus – "a finite-sized body of machine-readable texts, sampled in order to be maximally representative of the language variety under consideration" (McEnery & Wilson, 2001, p. 32) – allows for an analysis of what is actually happening inside Philippine classrooms, most especially in terms of language. Therefore, the compilation of one containing the spoken language of Filipino teachers should provide data readily available for analysis from various linguistic (descriptive linguistics, discourse analysis, sociolinguistics, and educational linguistics) and non-linguistic perspectives (educational management, curriculum theory, instructional theory, educational

[2] Marking, annotating, and parsing should constitute the next phase in the development of this corpus. However, it is readily available, including the recordings, to anyone for use in any scholarly endeavor and can be acquired from any of the compilers. At present, the corpus and its texts are simply stored as Microsoft Word file. In all, there are 38 texts of approximately 12 pages each (in font Times New Roman, size 12). It has undergone no marking, annotating, tagging, nor parsing. Since the present study is more interested in language codes (languages that are actually used in the classroom) rather than in the semantic and pragmatic meanings derived from classroom interactions, the corpus does not follow any transcription convention.

psychology, and cognitive psychology). It was toward this end that the British Council in Manila sponsored the compilation of a speech corpus of Filipino teachers.

The corpus was compiled concurrently with the project that had the objective of evaluating the provisions for a Content and Language Integrated Learning (CLIL) classroom in (some) primary schools in the Philippines. Hence, the primary schools observed for the evaluative study were the same schools from which the spoken language contained in the corpus was taken. The evaluation of the provision for a CLIL classroom in the Philippines was funded by the British Council Manila, which had selected the schools included in the study. Obviously, this part of the compilation of the corpus affected its representativeness. There were only a total of six government-run schools in Quezon City, National Capital Region that volunteered and were later on provided by the British Council Manila for classroom observation for the CLIL classroom evaluation. Thus, there were only six schools from which the classes for the corpus were sampled. Some classroom observations did not have clear recording, and one was not recorded at all.

As for the recording, in most cases, an MP3 recorder was attached to the teacher's upper garment, with the microphone pinned as close as possible to his/her mouth. A audiotape recorder, on the other hand, was placed either on the teacher's table located in front of the classroom or on the observer's table at the back of the classroom. There were instances when only one of the recorders was used to record the classroom observation. Of course, much of the quality of the recording was affected by how far the microphone attached to the recorders was strategically located to capture the teacher's voice, as well as the students'.

During the recording, an observer was seated at the back of the classroom to find out if the class being observed had provision for CLIL. As expected, the presence of the observer contributed to the naturalness of the classroom (and to the language of the classroom, for that matter). There is a belief among the observers that many of the classes observed were, to some extent, rehearsed prior to the observation – a usual practice in Philippine schools when there are classroom observations, most especially in those which are run by the government.

It is unfortunate that, during the collection of the speech samples, no relevant information on the teachers such as their age, sex, educational attainment, years of teaching experience, and the like as well as the demography of the students were collected. The only known information about the informants of the corpus is that they all belong to primary schools in one of the cities of Metro Manila, both the teachers and the students.

Since it is only concerned with Tagalog-English code-switching in English language teaching, this study only used 14 transcriptions from the said corpus – those of English language classes.

Frequency of Tagalog-English Code-Switching in English Language Teaching

It was posed earlier: How frequent do teachers and students in English language classes code-switch? But the more basic question is: Does code-switching happen in English language teaching? In the case of the classes subjected to analysis in this study, the answer is yes; code-switching does happen in English language teaching. Table 1 answers in those questions in detail:

Table 1
Frequency of Tagalog-English Code-Switched Utterances in the Data

Class	Teacher					Students				
	Tagalog-English Code-Switching		English		Total	Tagalog-English Code-Switching		English		Total
	f	%	*f*	%		*f*	%	*f*	%	
1	3	1.42	208	98.58	211	2	2.30	85	97.70	87
2	4	3.23	120	96.77	124	1	0.94	105	99.06	106
3	13	5.39	228	94.61	241	10	4.57	209	95.43	219
4	17	7.23	218	92.77	235	3	0.99	300	99.01	303
5	20	7.30	254	92.70	274	16	7.34	202	92.66	218
6	6	2.94	198	97.06	204	2	1.31	151	98.69	153
7	0	0.00	130	100.00	130	8	5.71	132	94.29	140
8	7	4.67	143	95.33	150	11	19.64	45	80.36	56
9	0	0.00	93	100.00	93	12	12.90	81	87.10	93
10	46	15.97	242	84.03	288	19	7.09	249	92.91	268
11	46	27.06	124	72.94	170	40	22.47	138	77.53	178
12	4	2.74	142	97.26	146	3	2.05	143	97.95	146
13	0	0.00	111	100.00	111	6	5.36	106	94.64	112
14	12	21.43	44	78.57	56	16	25.00	48	75.00	64
Total	178	7.32	2,255	92.68	2,433	149	6.95	1 994	93.05	2,143
Average	13	7.10	161	92.90	174	11	8.41	142	91.59	153

Looking at Table 1, it could be inferred that most English language teachers in the sample (11 out of 14 or 78.57%) code-switch – and therefore "violate" the implementing policy – and they code-switch in around less than 5 to almost fifty utterances or a little less than fifteen, at the average, in the entire class session. And in almost 2,500 utterances of all the English language teachers in the sample, almost 180 utterances contained at least one instance of code-switching. In terms of percentage, almost 7.5% of all the English language teacher speech contained at least one instance of code-switching.

Meanwhile, students also have their share of code-switching in class sessions. All classes recorded at least more than one instance of code-switched utterances. With all their utterances considered as one per class, they code-switch around more than one to less than fifty times or a little more than ten, at the average, per class session. Almost 150 utterances of the contained at least one instance of code-switching out of almost 2,000 utterances of all the students in the sample. Therefore, almost seven percent of all the student utterances contain at least one instance of code-switching.

Literature on code-switching in teaching and learning has not defined a way to quantify the significance of these frequencies and – therefore – to tell if the number of instances of code-switching in the data is indeed significant; however, if in policy, the understanding is that teachers of the English language should deliver instruction only in English, that students in English language classes should use only English in their classes, and, implicitly, that English language teachers and students of these teachers should never code-switch, then a percentage of around seven percent as the percentage of instance could already be considered a significant percentage.

However, though the instances of code-switching could be claimed to be significant, one's tendency to code-switch is more of an individual-specific trait. This is evidenced by

the three English language teachers who did not code-switch at all. It could be hypothesized that some English language teachers are pre-disposed to code-switch while others are not. Though aware of the policy that they should deliver their English language instruction in the target language, there were instances in the English language teachers' delivery of instruction that they code-switched. And, as was claimed earlier, taken together as a whole, the number of utterances with code-switches is significant.

Forms of Tagalog-English Code-Switching in English Language Teaching

Earlier, Bautista (1998a) identified the forms of Tagalog-English code-switching, thereby answering the question *How do Filipinos code-switch?* Using Poplack and Sankoff's (1988) typology as guide in answering the question, the categorizing the Tagalog-English code-switching strategies in electronic mails, she gave examples for each of the categories defined by Poplack and Sankoff. The first category of Poplack and Sankoff was smooth code-switches. These code-switches involve "changing the language of the sentence only at syntactic boundaries which occur in both languages" (Poplack & Sankoff, 1988, p. 1175). Switches of this type include switches between a main clause and a noun clause, an adverbial clause, a relative clause, and coordinate clauses, switches to a prepositional phrase in the other language, and switches between a Tagalog verb and an English subject. Here are some of the examples that Bautista provided for this strategy[3]:

1. Yesterday afternoon he felt so bad he said that *mas gusto pa daw niyang ipaputol na ang kamay niya*. 'Yesterday afternoon, he felt so bad he said that *he would prefer to have his hand cut off*.' (Between a main clause and a noun clause)
2. Saturday afternoon my ML [mother-in-law] called to say we should go to Nene's house, kahit wala si Nene. 'Saturday afternoon my ML [mother-in-law] called to say we should go to Nene's house, *even though Nene and family weren't there*." (Between a main clause and an adverbial clause)
3. Isa pa si Caroline *who has to grow a spine*. 'Caroline is another *who has to grow a spine*.' (Between a main clause and a relative clause)
4. They tried Alabang Hills, *pero hanggang bewang daw sa tapat ng Benedictine*. 'They tried Alabang Hills, *but it was waist-deep in front of Benedictine*.' (Between a main clause and a coordinate clause)
5. Bising-bisi sila *because of the convenience store*. 'They're very, very busy *because of the convenience store*.' (To a prepositional phrase in the other language)
6. Nakakatense your statement *that he likes fast cars and girls*. 'Makes us tense *that he likes fast cars and girls*.' Between a Tagalog verb and an English subject)

The second strategy that Poplack and Sankoff (1988) identified and that Bautista (1998a) searched in her electronic mails was constituent insertion – "simply the insertion of a grammatical constituent, in a sentence of the other language" (Poplack & Sankoff, 1988, p. 1176). Appearing as tag expressions, enclitics, and the Tagalog adverbial *parang* 'like' in her data, this strategy was exemplified by Bautista using the following excerpts from the electronic mails:

[3] The structure in question is in italics and the closest translation possible (for the entire sentence) is provided after the entire sentence.

7. *Oo nga pala*, is anyone traveling around September 10-14? '*Oh by the way*, is anyone traveling around September 10-14? (Tag expression)
8. We'll probably get it back Tuesday or Wednesday next week *na*. 'We'll probably get it back Tuesday or Wednesday next week *already*.' (Tagalog enclitic adverbial)
9. They couldn't rouse the guy: *Parang* dead to the world; drug-induced sleep daw. 'They couldn't rouse the guy: *He seemed* dead to the world; drug-induced sleep, they said.'

> The last strategy Bautista (1998) found existent in her data is nonce borrowing or: single lexical items, syntactically and morphologically (if not always phonologically) integrated into the recipient language, but also because eligible words are of the same type: largely nouns, with some representation of other content words (verbs, adverbs and adjectives), but no pronouns, articles, prepositions or other function words. (Poplack & Sankoff, 1988, p. 1176)

Poplack (1980) clarifies that these items are not established loanwords and that the former differs from the latter in terms of frequency of use, degree of acceptance, level of phonological integration, and the like, with the former being less frequent, less accepted, and less integrated. The extract below exemplifies the borrowing of a Tagalog noun in an English sentence:

10. I thought she would be a *kunsintidora* because she allows her 14-year old daughter to have a boy friend. 'I thought she would be someone who consents too easily because she allows her 14-year old daughter to have a boy friend.'

Adjectives are also a common bowworing:

11. And the same personality too – very *malambing* and *mabait*. 'And the same personality too – very *demonstrative* and *kind*.'

Idioms are also borrowed in either languages, but here is an example of an English idiom borrowed into Tagalog:

12. Tetong, *welcome to the club* ka nab a ulit? 'Tetong, are you once again *welcome to the club*?'

The English verb *make* followed by another Tagalog verb was also seen to be common in Bautista's data, such as this one:

13. If I didn't *make kulit*, for sure we won't have the phone yet. 'If I didn't *nag*, we won't have the phone yet.

However, this construction – along with some others – could be considered as an instance of what Bautista referred to as "*maarteng* English" (p. 139) or English with affectation, as

there are clear and easily available equivalents to these borrowings but the speakers and writers nevertheless made a conscious switch, for some pragmatic and stylistic reasons.

Bautista (1998a) also illustrated the smooth integration of these borrowings through the use of inflections of the host language in the borrowings:

14. Thanks for all the *kwentos*. 'Thanks for all the *stories*.' (English plural inflection in a Tagalog word)
15. Mike and I are so depressed by the turn of events, sana naman *magkaturn-around*. 'Mike and I are so depressed by the turn of events, hopefully *there will be a turn-around*.' (Tagalog affixation in an English word)

Bautista (1998a) found no instance of the third of Poplack and Sankoff's (1988) strategies in code-switching; non-smooth switching, that is. According to Poplack and Sankoff, this strategy also called flagged switching "are marked at the discourse level by pauses, hesitation phenomena, metalinguistic commentary, and other means of drawing attention to the switch, with the resultof interrupting the smooth production of the sentence at the switch point" (p. 1176). Bautista never found any instance of this in her data but she gave this hypothetical example, one that she would say in the company of her foreign friends:

16. As we say in Tagalog: *Sayang*! What a pity!

Table 2 now presents the forms of Tagalog-English code-switching in the data, following the typology proposed by Poplack and Sankoff (1988), and as applied by Bautista (1998a) in her dataset of electronic mails:

Table 2
Forms of Tagalog-English Code-Switching in the Data

Class	Form								Total
	Smooth Code-Switching		Constituent Insertion		Non-Smooth Switching		Nonce Borrowing		
	f	%	*f*	%	*f*	%	*f*	%	
1	28	80.00	4	11.43	0	0.00	3	8.57	35
2	4	80.00	1	20.00	0	0.00	0	0.00	5
3	2	33.33	4	66.67	0	0.00	0	0.00	6
4	11	40.74	15	55.56	1	3.70	0	0.00	27
5	5	83.33	1	16.67	0	0.00	0	0.00	6
6	1	50.00	1	50.00	0	0.00	0	0.00	2
7	8	80.00	0	0.00	0	0.00	2	20.00	10
8	3	37.50	0	0.00	3	37.50	2	25.00	8
9	10	90.91	0	0.00	0	0.00	1	9.09	11
10	11	84.62	2	15.38	0	0.00	0	0.00	13
11	7	87.50	1	12.50	0	0.00	0	0.00	8
12	82	86.32	4	4.21	1	1.05	8	8.42	95
13	20	71.43	7	25.00	1	3.57	0	0.00	28
14	68	86.08	9	11.39	0	0.00	2	2.53	79
Total	260	78.08	49	14.71	6	1.80	18	5.41	333
Average	19	78.08	4	14.71	0	1.80	1	5.41	24

In Table 2, it is obvious that Tagalog-English code-switching in the data are most in the form of – or strategy – smooth-code-switching, at almost four-fifth of the total number of code-switches in the data. Constituent insertion follows – but very, very from smooth switching – and they total to almost 50 instances or almost 15%. Nonce borrowings and non-smooth switches are relatively few, the former appearing only close to 20 instances or a little over five percent while the latter appearing only a little over five instances or almost two percent. And on the average, a class discourse would have almost 20 smooth switches, almost 5 constituent insertions, and just one nonce borrowing. Non-smooth switching is not common to the sample. In fact, only four classes recorded instances of this strategy, with one class monopolizing this strategy producing three of the six instances of non-smooth switches in the data. The cases of non-smooth switches will be discussed a little later, after each strategy is exemplified one by one below:

The use of the strategies in the sample of English language classes in Metro Quezon City, the Philippines do not differ significantly from how they were used in Bautista's (1998a) sample. Perhaps, because, as Bautista herself as thought, though her data is – to some extent – a written record of communication, it is not primarily formal and lean more closely to being conversational in form. And classroom discourse, though formal in context, would still more likely proceed to be more conversational in form. Hence, the similarity of the code-switches found in Bautista's data and the present study's. Therefore, not much elaboration will be given for the three most frequent strategies but, at least for the purposes of presentation, samples from the English language classes analyzed are provided below:

Under the typology smooth code-switches, sentences in Tagalog from the first word down to the last word were all counted as smooth code-switches, since the context is understandably in English and so even a Tagalog-only utterance was considered to be a code-switch, an inter-sentential code-switch, perhaps. Most of the smooth switches are of this form and here are a few examples:

17. Teacher: Okay. Paul mops the floor during Saturday. Who else? Merille.
    Student: Teacher, *may nag-away po*. 'Teacher, *someone got caught in a fight*.'
18. Student 1: *Anong color?* 'What color?'
    Student 2: Blue.
19. Teacher: Mark Anthony. Mmm. Alright. Very good. Next, next.
    Student: Ma'am, *'di pa ako natatwag*. 'Ma'am, *I have not been called yet*.'

Other instances of smooth switches have taken the form of repetitions:

20. Make it fast! *Bilisan mo*! 'Make it fast! *You make it fast*!'
21. Why is this with correction already? We haven't checked. *Ba't may mga check na'to? Hindi pa tayo nagtse-scheck eh*. 'Why is this with correction already? We haven't checked. *Why does this already have corrections? We haven't checked [it]*.'
22. Ah, so you'd like to know what else? Ano pa ang gusto mong malaman diyaan? 'Ah, so you'd like to know what else? *What else would you like to know about that?*'

Here are more examples of smooth switching:

23. Hello! Listen, children. *Alam ko gutom na kayo!* 'Hello! Listen, children. *I know you are already hungry.*'
24. Be careful! *Andito ang pandikit ninyo, o.* ' Be careful! *Your glue is here.*'
25. *So babasahin lahat?* '*So everything will be read?*'

The second most frequent strategy of code-switching in the English language classes data is constituent insertions. Below are some examples of constituent insertion in the teacher language corpus analyzed:

26. Okay... Now... *Sige*... Please be the next... 'Okay... Now... *Go*... Be the next...'
27. Just raise your hand *lang*. 'Just raise your hand *only*.'
28. *Uy*! Sit down *nga eh*. '*Hey*! *The teacher* said sit down.'

The first two examples also parallel some of the examples in Bautista's (1998a) paper. However, the third case counts as a rather unique case because the English free translation already has a subject. This is because, according to Dita (personal communication, 2008), one of the functions of the Tagalog adverbial particle *nga* is being a particle of reiteration; thus, there is no need for the student who uttered the sentence to indicate an explicit subject, given the context that the teacher just gave the order to sit down. Obviously, this is an example of intersentential conde-switching.

The two least frequent strategies of Tagalog-English code-switching found in the current data are nonce borrowing and non-smooth code-switching. There are basically two reasons why the teachers and students borrowed words from Tagalog: One is because the word being borrowed has no (close, semantic) equivalent in English and/or the speaker wants to achieve some pragmatic and even perhaps stylistic effect to which only the Tagalog word could bring out. Here are some examples of nonce borrowings:

29. Ginger is also an example of herb. Some plants cling to the wall or climb terraces. Okay, they are called vines. What are examples of vines according to our story? Oh yes, Santsy. Vines, kalabasa. Read. Read it. Okay. Patola. Okay, next – shrubs. What do you call shrubs – a woody plant in a tree? Oh, Sophia. 'Ginger is also an example of herb. Some plants cling to the wall or climb terraces. Okay, they are called vines. What are examples of vines according to our story? Oh yes, Santsy. Vines. Squash. Read. Read it. Okay. *Sponge gourd*. Okay, next – shrubs. What do you call shrubs – a woody plant in a tree? Oh, Sophia.'
30. Students: Good morning, visitor!
    Teacher and Students: Welcome...
    Students: And *mabuhay*! [Tagalog welcome greeting with no English translation]
31. Okay, you are going to write the correct answer. Number one. Read first the sentence before answering. Read first the sentence. Answer number one. Will you take your seat? Just raise your hand. Jasper. Yes, *hija*? Read the first sentence. Hmmm. Read. [An affectionate term (originally from Spanish) to refer to a girl]

Actually, the above borrowings may already considered part of the lexicon of English – Philippine English, that is, following Bautista (1997, 1998b) and Borlongan (2007). Borlongan may even go as far as considering these borrowings as already being part of Standard Philippine English.

In Bautista's (1998a) data composed of electronic mails, there was no instance of non-smooth switching. She explained this phenomenon as being a reflection of code-switching as a natural mode of discourse for the Manila speech community – the community in which her subjects belong. However, in the data analyzed for this study, there is at least almost two percent of all the code-switches that could be categorized as non-smooth switch. This should not be too surprising – even if the setting from which the present data was derived is an English language class – because Bautista's data were all electronic mails and they may have undergone some self-editing and superficial screening of the author, as Bautista herself has described her data. The current data is rather more spontaneous, in terms of production. Both the teachers and the students have little time to check on the accuracy of their utterances before production and would only resort to correction upon noticing of error. Hence, the instances of non-smooth switching. In fact, one class monopolized this strategy, taking half of the total number of all the non-smooth code-switches in the data. Their instances are rather not too much, only a little over five times in the data. Here are some of its occurrences:

32. Yesterday. Now... Okay... Sige... Now, let us change the names with your real names. And let us change yesterday by last Saturday. What did you do last Saturday? Okay, I need two girls. Okay, Christine Joy and Shane. Okay, shane will be Dolly and Christine Joy will be... *Ay*... Christine Joy will be Joy. Okay. And change this one to last Saturday. Okay, Shane, what did you do last Saturday, Joy? 'Yesterday. Now... Okay... Okay... Now, let us change the names with your real names. And let us change yesterday by last Saturday. What did you do last Saturday? Okay, I need two girls. Okay, Christine Joy and Shane. Okay, shane will be Dolly and Christine Joy will be... *Oh*... Christine Joy will be Joy. Okay. And change this one to last Saturday. Okay, Shane, what did you do last Saturday, Joy?'
33. Okay, who'd like to pick one? May I call on? Yes, Kyle, come here. You pick one word inside the box and you do the action. Do not show your *ano*, okay? O, take a look at Kyle. 'Okay, who'd like to pick one? May I call on? Yes, Kyle, come here. You pick one word inside the box and you do the action. Do not show your *what*, okay? O, take a look at Kyle'
34. Yung *ano*, yung book with this drawing. It's on page 172. This book, with this kind of drawing. O, you look at the drawing ha. It is on page 172. 'The *what*, the book with this drawing. It's on page 172. This book, with this kind of drawing. Okay, you look at the drawing. It is on page 172.'

Summary and Conclusion

Shrouded by questions on code-switching in the context of English language classes in the Philippines, this study analyzed a total of 14 English language classes whose discourses have already been transcribed and compiled in a teacher language corpus. The analysis focused on the frequency of teachers' and students' code-switches in those classes as well as the forms of the code-switches of both the teachers and students. The analysis of

the data reveals that most English language teachers in the sample (11 out of 14 or 78.57%) code-switch – and therefore "violate" the implementing policy – and they code-switch in around less than 5 to almost fifty utterances or a little less than fifteen, at the average, in the entire class session. students also have their share of code-switching in class sessions. All classes recorded at least more than one instance of code-switched utterances. However, though the instances of code-switching could be claimed to be significant, one's tendency to code-switch is more of an individual-specific trait. Tagalog-English code-switching in the data are most in the form of – or strategy – smooth-code-switching, at almost four-fifth of the total number of code-switches in the data. Constituent insertion follows but very, very from smooth switching. Nonce borrowings and non-smooth switches are relatively few.

References

Bautista, M. L. S. (1997). The lexicon of Philippine English. In M. L. S. Bautista (Ed.), *English is an Asian language: The Philippine context (Proceedings of the Conference held in Manila on August 2-3, 1996)* (pp. 49-72). Manila, the Philippines: Macquarie Library Pty Ltd.

Bautista, M. L. S. (1998a). Another look at Tagalog-English code-switching. In M. L. S. Bautista (Ed.), *Pagtanaw: Essays on language in honor of Teodoro A Llamzon* (pp. 121-146). Manila, the Philippines: The Linguistic Society of the Philippines.

Bautista, M. L. S. (1998b). Tagalog-English code-switching and the lexicon of Philippine English. *Asian Englishes*, 1(1), 51-67.

Bautista, M. L. S. (1999). An analysis of the functions of Tagalog-English code switching: Data from one case. In M. L. S. Bautista & G. O. Tan (Eds.), *The Filipino bilingual: A multidisciplinary perspective (Festschrift in honor of Emy M. Pascasio)* (pp. 19-31). Manila, the Philippines: Linguistic Society of the Philippines.

Bautista, M. L. S. (2000). *Defining Standard Philippine English: Its status and grammatical features*. Manila, the Philippines: De La Salle University Press, Inc.

Bautista, M. L. S. (2004). Tagalog-English code switching as a mode of discourse. *Asia Pacific Education Review* 5, 226-233.

Bernardo, A. B. I. (2005). Bilingual code-switching as a resource for learning and teaching: Alternative reflections on the language and education issue in the Philippines. In D. T. Dayag & J. S. Quakenbush (Eds.), *Linguistics and language education in the Philippines and beyond: A festschrift in honor of Ma. Lourdes S. Bautista* (pp. 151-169). Manila, the Philippines: Linguistic Society of the Philippines.

Bernardo, A. B. I. (2007). Language in Philippine education: Rethinking old fallacies, exploring new alternatives amidst globalization. In T. R. F. Tupas (Ed.), *(Re)making society: The politics of language, discourse, and identity in the Philippines* (pp. 1-26). Quezon City, the Philippines: The University of the Philippines Press.

Bernardo, A. B. I. (in press). Language, learning, and medium of instruction in multilingual contexts: An information-processing components perspective. In U. Kim & Y.-S. Park (Eds.), *Asia's educational miracle: Psychological, cognitive, and cultural perspectives*. New York: Springer Publishing.

Borlongan, A. M. (2007). Innovations in Standard Philippine English. In C. C. Mann (Ed.), *Current research on English and applied linguistics: A De La Salle University*

special issue (pp. 1-36). Manila, the Philippines: Department of English and Applied Linguistics, De La Salle University-Manila.

Cole, S. (1998). The use of L1 in communicative English classrooms. *The Language Teacher* 22, 11-13.

Eldridge, J. (1996). Code-switching in a Turkish secondary school. *ELT Journal* 50(4), 303-311.

Gordon, R. G., Jr. (Ed.). (2005). *Ethnologue: Languages of the world* (15th ed.) [Electronic version]. Dallas, TX: SIL International.

Gumperz, J. J. (1977). The sociolinguistic significance of conversational code-switching. *RELC Journal* 8(2), 1-34.

Kachru, B. B. (1997). English as an Asian language. In M. L. S. Bautista (Ed.), *English is an Asian language: The Philippine context (Proceedings of the conference held in Manila on August 2-3, 1996)* (pp. 1-23). Manila, the Philippines: The Macquarie Library Pty Ltd.

Lieberson, S. (1981). An asymmetrical approach to segregation. In C. Peach, V. Robinson, & S. Smith (Eds.), *Ethnic segregation in cities* (pp. 61-82). London: Croom-Helm.

Martin, I. P. (2006a). Language in Philippine classrooms: Enfeebling or enabling? *Asian Englishes* 9(2), 48-66.

Martin, I. P. (2006b). Code-switching practices in tertiary-level courses. *PSSC Social Science Information* 34, 123-140.

Mattsson, A., & Burenhult-Mattsson, N. (1999). Code-switching in second language teaching of French. *Working Papers* 47, 59-72.

McEnery, T., & Wilson, A. (2001). *Corpus linguistics: An introduction* (2nd ed.). Edinburgh, United Kingdom: Edinburgh University Press Ltd.

The New London Group. (2000). A pedagogy of multiliteracies: Designing social futures. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp. 9-37). London: Routledge.

Pascasio, E. M. (1978). Dynamics of code switching in the business domain. *Philippine Journal of Linguistics* 9, 40-50.

Pineda, P. B. P. (1985). Pagpaplano ng wika ukol sa pambansang pagsulong. In A. O. Alfonso (Ed.), *Linggwistika at panitikan: Mga piling sanaysay handog-parangal para kay Al Q. Perez* (pp. 84-106). Manila, the Philippines: Rex Book Store & Pambansang Samahan sa Linggwistikang Pilipino.

Poplack, S. V. (1980). "Sometimes I'll start a sentence in Spanish y termino en español": Toward a typology of code-switching. *Linguistics* 18, 561-618.

Poplack, S. V., & Sankoff, D. (1988). Code-switching. In U. Ammon, N. Dittmar, & K. Mattheier (Eds.), *Sociolinguistics: An international handbook of the science of language and society* (Vol. 2, pp. 1173-1180). Berlin: Walter de Gruyter.

Santos, E. H. (1969). *A study on the roles of aptitude, attitude and motivation in second language acquisition*. Unpublished master's thesis, Philippine Normal College, Manila, the Philippines.

Sert, O. (2005). The functions of code switching in ELT classrooms. *The Internet TESL Journal* XI(8).

Sibayan, B. P. (2000). Resulting patterns of sociolinguistic, socioeconomic, and cultural practice and behavior after more than four hundred years of language policy and practice in the Philippines. In M. L. S. Bautista, T. A. Llamzon, & B. P. Sibayan

(Eds.), *Parangal cang Brother Andrew: Festschrift for Andrew Gonzalez on his sixtieth birthday* (pp. 247-261). Manila, the Philippines: Linguistic Society of the Philippines.

About the Author

Ariane Macalinga Borlongan is a doctoral candidate at the Department of English and Applied Linguistics of De La Salle University, Manila, the Philippines. His interests are on Philippine English and world Englishes, English grammar, sociolinguistics, educational leadership and management, and language teaching and learning.

The Development of Metacognitive Reading Awareness Inventory

TESOL Journal
Vol. 1, pp. 43-57
©2009
http://www.tesol-journal.com

Mariel Hope Chen
Paul Jerik Gualberto
Cheyenne Led Tameta
De La Salle University – Manila

Abstract

The present study was designed to explore the tertiary level students' reading awareness. The development of a new self-report instrument, the Metacognitive Reading Awareness Inventory, intends to assess college students' reading awareness in reading academic or school-related materials. There were five components or subscales of reading: Phonemic Awareness, Phonics, Reading Fluency, Vocabulary Development, and Reading Comprehension. A total of 300 participants were selected through random sampling. The reliability and factorial validity of the scale were demonstrated. The data analysis showed that the test has a Cronbach's Alpha of .49. Confirmatory Factor Analysis was made use to test the validity of the scale. Results revealed that the five factors are under metacognitive reading awareness which proves that Phonemic Awareness, Phonics, Reading Fluency, Vocabulary Development, and Reading Comprehension, whether in higher or lower order thinking skills are part of the reading process which involve metacognition.

Introduction

Metacognition in literacy learning has received much attention in the literature in the last 15 to 20 years (Schmitt, 1990). Writers have noted, however, that metacognition is perhaps not a new construct but rather a new label for the age-old concept of reflective problem solving (e.g., Baker & Brown, 1984; Schmitt, 1986; Smith, 1994).

Recent trends within the domain of reading comprehension have led to an increasing emphasis on the role of metacognitive awareness of one's cognitive and motivational processes while reading (Alexander & Jetton, 2000; Guthrie & Wigfield, 1999; Pressley, 2000; Pressley & Afflerbach, 1995). Baker and Brown (1984) insist that such awareness is a "prerequisite for self-regulation, the ability to monitor and check one's own cognitive activities while reading" (p.376), and they refer to the awareness as metacognitive knowledge. Metacognitive awareness, or metacognition, was first defined by Flavell (1979) as one's ability to understand, control, and manipulate his own cognitive process to maximize learning. In addition, he described the process of cognitive monitoring as occurring through the actions and interactions of four classes or interrelated phenomena: Metacognitive knowledge, metacognitive experiences, goals (or tasks), and actions (or strategies).

Paris and Winograd (1990) maintained that metacognition can promote academic learning and motivation. They also argued that such "consciousness-raising" has twin benefits: "(a) it transfers responsibility for monitoring learning from teachers to students themselves, and (b) it promotes positive self-perceptions, affect, and motivation among students. In this manner, metacognition provides personal insights into one's own thinking and fosters independent learning" (p.15)

Researchers have shown that students' awareness of their own reading comprehension processes can be enhanced through systematic, direct instruction (Paris & Winograd, 1990). However, they cautioned that "metacognition should not be regarded as a final objective for learning or instruction." Instead, it should be regarded as an opportunity to "provide students with knowledge and confidence that enables them to manage their own learning and empowers them to be inquisitive and zealous in their pursuits" (Paris & Winograd, 1990, p.22).

The National Reading Panel Report (National Institute of Child Health and Human Development [NICHD], 2000) summarized several decades of scientific research that clearly shows effective reading instruction addresses five critical areas: Phonemic Awareness, Phonics, Reading Fluency, Vocabulary Development, and Reading Comprehension. These five areas were incorporated into the No Child Left Behind Act and the Reading First initiative as essential components of effective reading instruction. There are many approaches to teaching these five essential components. These approaches differ in how much guidance or direction teachers provide as their students are learning new skills, how clearly and directly teachers explain new skills, whether they demonstrate exactly how to use a specific skill, and whether the skills are taught in a thoughtful sequence. Scientific research reviewed by the National Reading Panel revealed that these different approaches or methods of teaching the five essential components are *not* equally effective (Learning Point Associates, 2004).

Efforts to develop metacognitive awareness inventories have been well intentioned but generally not satisfactory from a measurement perspective (Mokhtari and Reichard, 2002). Limitations such as participants and instrumentation were evident in determining the construct of metacognitive awareness.

In the year 1933, John Dewey paved way in the field of education by distinguishing the levels of thinking. The difference of searching and judging in thinking are called reflective and critical thought. Though at the later part, he found something similar with the scientific method such as problem solving strategy for reflective thought (Geertsen, 2003). Furthermore, Teays (1996) "describes critical thinking as the use of conscious reflection to elevate thoughts above those found in everyday thinking". According to Richard Paul, the Director of the Center for Critical Thinking that "Critical thinking is thinking about your thinking in order to make your thinking better". In addition "It is the improvement (in thinking) through standards (that assess thinking). To think well is to impose discipline and restraint on our thinking-by means of intellectual standards-in order to raise our thinking to a level of perfection or quality that is not natural or likely in undisciplined, spontaneous thought."

According to the Productive Pedagogies Classroom reflection manual commissioned by Education Queensland, "higher-order thinking by students

involves the transformation of information and ideas while lower-order thinking occurs when students are asked to receive or recite factual information or to employ rules and algorithms through repetitive routines."

Moreover, Whittington (1995) compared the bloom's taxonomy, the Newcomb-Trefz model of learning, and the two level thinking skill models. The results show that Blooms knowledge is equivalent to Newcomb's remembering and it falls under lower level thinking skill. Bloom's comprehension, application, and analysis falls under Newcomb's processing and are also under lower level thinking skills. Bloom's synthesis is equivalent to Newcomb's creating and is under higher order thinking skill. Bloom's evaluation is equivalent to Newcomb's evaluating and is under higher order thinking skills.

According to Madaus, et al. (1971), Benjamin Bloom defined his taxonomy into six major levels namely: knowledge, comprehension, application, analysis, synthesis and evaluation. This is arranged from simple to complex manner based on the cognitive domain. Karns et al (1983) stated that knowledge is "achieved by rote memory of simple rules, facts, terminologies, sequences, and principles" (p.18). In addition, comprehension is wherein the "student restates the problem in his/her own words, gives an example of a principle, or extrapolates a trend" (p.18). On the other hand, application is when "student must be able to apply a principle to some new problem" (p.18). Analysis "involves the breakdown of a communication into its constituent elements, finding assumptions, identifying causal relationships, and distinguishing facts from opinions" (p.18). Synthesis involves developing a prediction (p.19). Lastly, evaluation "demands value judgments evolving from critical evaluation of information and theories" (p. 19). Reading bestows cognitive effects which can be quoted from the "more you read, the more you learn." Smith (1994) emphasized that "literacy skills are used to accomplish a variety of tasks that involve reading such as acquiring knowledge, relaxing with leisure activities, solving work related tasks and becoming performed citizens."

Schmitt (1990) developed the Metacomprehension Strategy Index to determine the students' levels of strategy awareness namely: Predicting and verifying, Previewing, Purpose setting, Self-questioning, Drawing from background knowledge, Summarizing and applying fix-up strategies. The results showed that there was lack of significant difference in the categories as a whole; there were a few questions that revealed differences between the children who had successfully completed Reading Recovery and the cohort sample group with respect to knowledge about less effective or item-oriented strategies.

Jacob and Paris (1987) developed the Index of Reading Awareness to measure the four aspects of metacognition in reading namely: evaluation, planning, regulation, and conditional knowledge. The scale consists of 22 multiple choice items which was assessed by McLain, Gridley, and McIntosh (1991), who obtained preliminary reliability and validity data and found the scale only marginally acceptable. They also found the reliability index (.61) to be "minimal" and stated that the scale "should be used cautiously as a measure of metacognition in reading" (p.81).

Pereira-Laird and Deane (1997) developed the Reading Strategy Use to assess the students' cognitive and metacognitive reading strategy use. Several items from the scale do not appear to be reading strategies; all items were forced into

predetermined factors (matacognitive and cognitive) on the basis of judges' ratings, and it was said that the researchers skipped exploratory factor analysis.

Zhang and Wu (2009) developed a 28-item survey of reading strategies (SORS) which consists of 3 categories namely: Global, Problem-solving, and Support in order to assess the metacognitive awareness and reading-strategy use of Chinese senior high school students who are learning English as a foreign language (EFL). The analysis showed that the students on the whole displayed characteristics of active strategic readers. They were conscious of their cognitive process during reading and were able to utilize a wide array of EFL reading strategies to achieve comprehension.

In addition, Mokhtari and Reichard (2002) developed the Metacognitive Awareness of Reading Strategies Inventory (MARSI) to assess adolescent and adult readers' metacognitive awareness and perceived use of reading strategies while reading academic or school-related materials. The same 3 reading strategy categories namely Global, Problem-solving, and Support were used as subscales. Results showed that there were significant differences in the use of Global and Problem-Solving Strategies by self-reported reading ability but no significant differences in the use of the Support Strategies by self-reported reading ability. Moreover, previous studies were not able to utilize the 5 components of reading. Thus, in the current study, the researchers considered examining the 5 components of reading essential in education.

Five Essential Components of Effective Reading Instruction

Phonemic Awareness. According to Allor (2002), "phonological processing is the ability to understand and use the sound system of the language to process the written and oral language." (p.48). An example of phonological awareness is phonemic awareness. It is defined as oral language skill that involves the understanding of sentences that are made up of phonemes or individual sounds.

Phonics. The main goal of phonics instruction is to teach students to decode the alphabet and use this knowledge to decode the words. It could be a combination of "consonant letters and sounds and short and long vowel letters and sound and vowel and consonant diagraphs (e.g. oi, ai, sh, th)" (p. 394) stated by Ehri et al (2001). Furthermore, it is concerned with the visual symbols of the written language.

Vocabulary. Bauman et al (2003) stated that vocabulary instruction is "how to derive word meanings through morphemic analysis and infer word meaning through contextual analysis". (p. 448). In addition, vocabulary is a combination of words in a specific language as whole.

Reading Fluency. The National Reading Panel (1999) stated that a combination of effective instruction of phonemic awareness, phonics or sound blending, guided oral reading and vocabulary comprehension can increase the accurate and fluent reading.

Reading Comprehension. Reading comprehension is the basis of literacy acquisition. According to Onwugbuzie et al (2004) "reading comprehension represents the reader's ability to integrate effectively and meaningfully apply acquired knowledge with the information provided in the text." (p.444). This kind of skill is an integration of between the schema and the acquired information.

Although there are researches about metacognitive awareness, they did not focus on the 5 essential components of reading namely: Phonemic Awareness, Phonics, Reading Fluency, Vocabulary Development, and Reading Comprehension. Thus, the present article describes a self-reported instrument, the Metacognitive Reading Awareness Inventory, which is designed to explore the tertiary level students' reading awareness. Investigating on the students' metacognitive awareness can unveil their reflections and judgments on the various processes of inhibiting frequently, consciously, and voluntarily pattern of such behavior. With this, the researchers want to examine the reliability and validity of the scale that they have constructed. Furthermore, the researchers want to confirm if the items constructed are appropriate for each subscale.

Method

Test Design

The test design used for the scale was confirmatory factor analysis. In particular, the researchers confirmed and verified the 5 essential components of reading namely: Phonemic Awareness, Phonics, Reading Fluency, Vocabulary Development, and Reading Comprehension.

Search for Content Domain

Though the 5 essential components of reading were not investigated by researches, the researchers found support in Mokhtari and Reichard (2002), who authored Metacognitive Awareness of Reading Strategies Inventory (MARSI), which includes the 3 reading strategy categories namely: Global, Problem-solving, and Support. In addition, Zhang and Wu (2009) authored a 28-item survey of reading strategies (SORS) which also consists of 3 reading strategy categories. The National Reading Panel Report (National Institute of Child Health and Human Development [NICHD], 2000) confirmed that an effective reading instruction addressed the 5 reading components. They also included the definitions of the 5 reading components which aided the researchers to formulate content domains.

Item Writing and Review

The items were written based from the definitions researched regarding the five reading components. The items were then reviewed by a professor in Applied English and Linguistics. From the suggestions given, some items were revised and

after reviewing, the affective scale was constructed. Also, it was suggested that the scaling technique should be changed into an even number.

Scaling Technique

The researchers used a 4-point Likert Scale (very typical of me. typical of me. not typical of me. very not typical of me) in order for the respondents to make a definite choice.

Procedures

Initially, the researchers generated the Metacognitive Reading Awareness Inventory from which the final set of items was revised and constructed. The revised instrument was administered to randomly selected 300 De La Salle University-Manila students. It was made sure that none of the participants have/had specific learning problems or conditions. Each participant was given a Metacognitive Reading Awareness Inventory form made by the researchers themselves. At the same time, the researchers entertained the students' questions. Ample time was given to the students in completing the inventory form. After gathering the 300 inventory forms, the researchers encoded the scores.

Data Analysis

Cronbach's Alpha. This method is appropriate for items scored with values other than 1 or 0, such as an essay item that might be scored using a 5-point scale. Like the K-R formulas, Cronbach's alpha represents an average correlation that would be obtained over all split-halves of the test. Cronbach's alpha is a measure of internal consistency and is the most widely used and reported method for estimating the reliability of test scores (Magno & Ouano, 2008; Shoemaker, 2006).

Split-half. Split half is used to measure the consistency of responses. In split-half, the items of the test are split into two parts, and the scores for the parts should show consistency. This is to determine whether the scores within the same test are homogenous. There are various ways of splitting the test into two parts (e.g., random distribution, separating the odd with the even numbers). Split half is usually used for personality and mental ability tests, where the tests have many items to make them reliable. Spit-half is examined by getting the sum of the total scores for each half of the scale before correlating the total scores in pairs. Yielding a high correlation coefficient would signify that the responses in the test are internally consistent. Spearman-Brown is then used by doubling the length of the test since only half of the test is correlated (Magno & Ouano, 2008). Since it is often difficult and inefficient to develop two parallel tests, a more common approach is to split the current test into two equivalent halves and correlate those test scores together. One method is to use the odd-numbered items as one half of the test, and the even-numbered items as the second half of the test. The correlation between the two halves is an estimate of reliability of the test. In this case, the correlation coefficient

is often adjusted to reflect the length of the original test. Split-halves reliability is a measure of internal consistency (Shoemaker, 2006).

Construct validity. Construct validity indicates the extent to which a test measures an underlying construct, such as intelligence or anxiety. Construct validity is demonstrated if it correlates with similar tests measuring the same construct, or if test scores are consistent with what the construct would predict. For example, when individuals are placed in a stress environment, it would be expected that their scores on an anxiety test would go up. (Shoemaker, 2006)

Confirmatory Factor Analysis. This type of factor analysis is another way of proving the factor structure of a construct. It is used to show how well the data fits the hypothesized structure. It is also used to assess the best subscale of a construct. In this technique, the parameters of the model are projected, and evaluation is done in the goodness of fit of the solution to the data (Magno & Ouano, 2008).

Results

Reliability

The internal consistency of the scale using Cronbach's Alpha is .49, indicating fair reliability. The means, standard deviations, and reliabilities using split-half and Cronbach's alpha for each of the subscales are shown in Table 1. The internal consistency of the items when separated for every factor which still showed fair reliability; except for factor 5, wherein the other factors did not get a reliability coefficient as high as the overall index of internal consistency (.49).

Table 1
Cronbach's Alpha for Each Factor

Factor	Cronbach's Alpha from split half	*M*	*SD*	No. of items
1	.41	69.78	3.91	20
2	.44	66.81	4.50	20
3	.41	63.33	5.17	20
4	.40	60.01	5.59	20
5	.30	58.92	6.38	20

Confirming the Factors of Metacognitive Reading Awareness

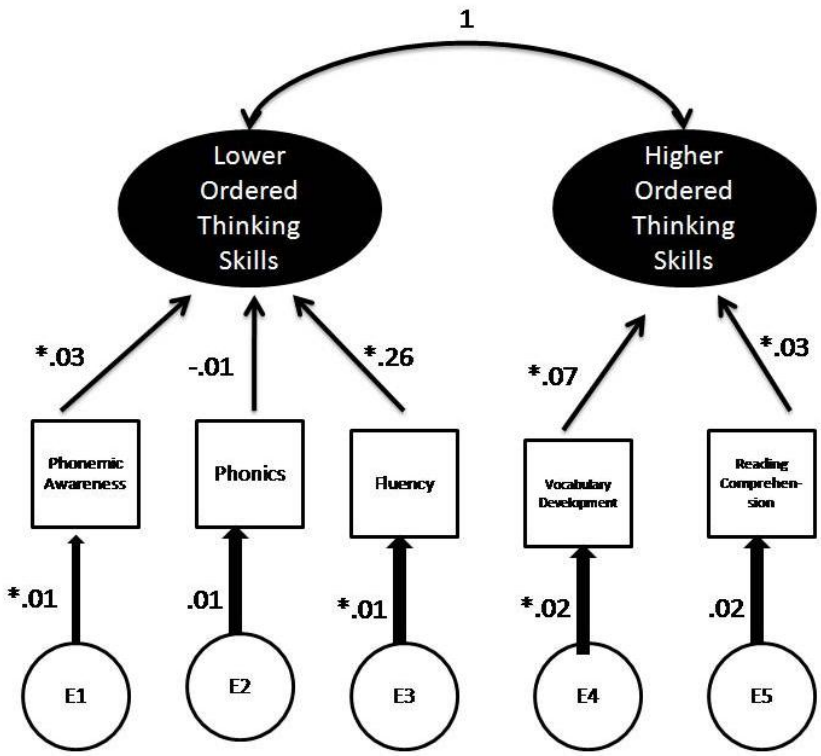
The preliminary form with 100 items was administered to 300 college students. The five reading components, which are the factors for the scale, were tested using Confirmatory Factor Analysis. In Model 1, a two factor solution was tested where lower order thinking skills and higher ordered thinking skills were used as latent variables. For the lower order thinking skills, the manifest variables are Phonemic Awareness, Phonics, and Reading Fluency. Moreover, Vocabulary

Development, and Reading Comprehension are manifest variables for Higher order thinking skills. In Model 2, the extracted five factors solution was tested where Phonemic Awareness, Phonics, Reading Fluency, Vocabulary Development, and Reading Comprehension are separate factors.

Model 1: Common Factor Model. For the first model, the goodness of fit using chi-square shows a bad fit (*df* = 5) which is significant, *p* = .00. The goodness of fit based on the RMS standardized residual (RMS = .07) shows that the value is not less than .05 indicating good fit. Using Noncentrality fit indices, the values shows that the two factor solution is a good fit for metacognitive reading awareness (McDonald Noncentrality Index = .10, Population Gamma Index = .10). The factor structure for Model 1 is shown in Figure 1.

The model estimates in the CFA show that Phonics under Lower order thinking skills, and Reading Comprehension under Higher order thinking skills are not significant factors. An estimate of -.01 under Phonics and .03 under Reading Comprehension were derived.

Figure 1
Common Factor Model



Model 2: Five Factor Model. For the second model, the chi-square goodness of fit test shows a bad fit (*df* = 5) which is also significant, *p* = .28. The RMS standardized residual shows a better fit (RMS = .04) as compared to Model 1. The Noncentrality fit indices shows that there are less errors having a fit

(McDonald Noncentrality Index= .90, Population Gamma Index= .90). The values for Model 2 are higher showing that this is better. Figure 2 shows the factor structure for Model 2.

The model estimate for the second CFA shows that Phonemic Awareness, Phonics, Reading, Vocabulary Development, and Reading Comprehension are significant with their respective parameters. Table 3 shows the difference in the single sample fit index of model 1 and 2.

Figure 2
Five Factor Model

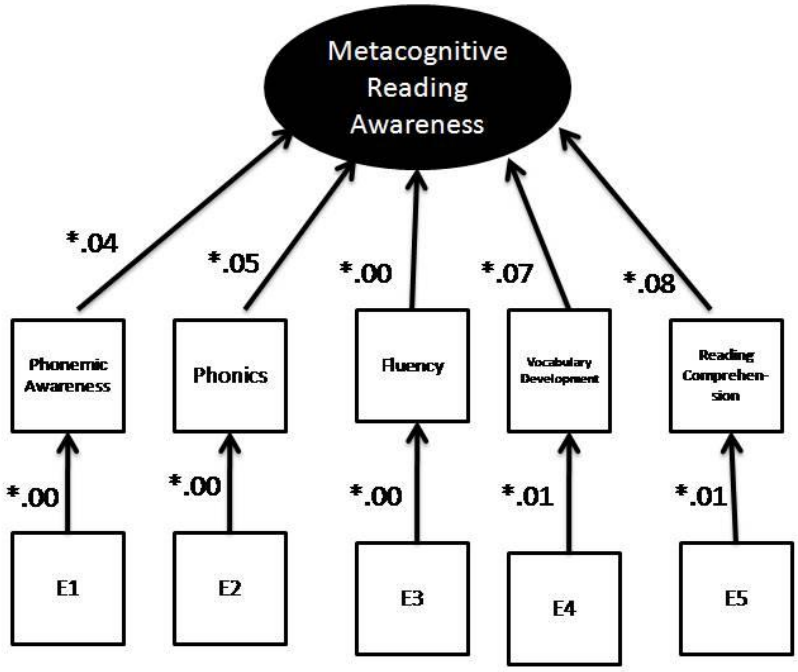


Table2
Single Sample Fit Indices of the Model 1 and 2

Single Sample Fit Index	Model 1	Model 2
Joreskog GFI	0.99	0.99
Joreskog AGFI	0.97	0.97
Akaike Information Criterion	0.094	0.088
Schwarz's Bayesian Criterion	0.23	0.21
Browne-Cudeck Cross Validation Index	0.096	0.089
Independence Model Chi-Square	34.06	34.06
Independence Model df	10.00	10.00
Bentler-Bonett Normed Fit Index	0.82	0.82
Bentler-Bonett Non-Normed Fit Index	0.77	0.90
Bentler Comparative Fit Index	0.91	0.95
James-Mulaik-Brett Parsimonious Fit Index	0.33	0.41
Bollen's Rho	0.54	0.63
Bollen's Delta	0.93	0.96

From the single sample fit indices obtained, it can be clearly seen that the second model is better than the first. Values for the Joreskong GFI, Joreskong AGFI, Bentler-Bonett Normed Fit Index, Bentler-Bonett Non-Normed Fit Index, Bentler Comparative Fit Index, James-Mulaik Brett Parsimonious Fit Index, Bollen's Rho, and Bollen's Delta are higher in model two than in model one; meaning model two is better. Consistently, the Akaike Information Criterion, Schwarz's Bayesian Criterion, and the Browne-Cudeck Cross Validation Index wherein lower values are more favorable; are lower in model two as compared to model one. Consequently, model two can be said to have a better goodness of fit than model one. Therefore, it can be implied that the 5 reading components are under metacognitive reading awareness and thus, these are dependent to each other.

Discussion

The affective scale on metacognitive reading awareness is intended for college students. This aims to explore the students' reading awareness while reading academic or school-related materials. Certainly, metacognitive knowledge can be hypothesized or presupposed by evidence of behaviours that indicate cognitive control and thus, it can also be possible to obtain information concerning declarative and conditional knowledge of strategies. As a student, one can or cannot be aware of the metacognitive reading awareness but with this inventory, one can monitor and assess the reading strategies used while reading and therefore, enable positive learning.

Through using different statistical analyses, the scale on metacognitive reading awareness was internally consistent (Cronbach's Alpha = .49). Using split-half method, items corresponding for each of the five subscales of metacognitive reading awareness were tested and it was found that correlation coefficients

obtained were of acceptable values (*less than 0.7*). Consequently, the scale can be considered internally reliable and valid as well.

In testing the validity of the scale, confirmatory factor analysis was used. The researchers were able to confirm if the subscales can be considered under metacognitive awareness. Two models were utilized to verify if the five factors can be further divided. It appears that the second model, which was the five factor model showed significant differences with their respective parameters. Factors considered under metacognitive reading awareness were Phonemic Awareness, Phonics, Reading Fluency, Vocabulary Development, and Reading Comprehension. In the reading process, awareness and monitoring are in itself what it seems to be metacognitive. For the past years, researchers who have conducted studies regarding comprehension of unskilled and skilled readers have found out that metacognitive awareness is particularly important in proficient and skilled readers (Mokhtari et al., 2002). Comprehension, one of the reading components, is considered a complex interaction of language, sensory perceptions and memory. According to Mason (1984), reading comprehension, characterizes the ability of reader in which in effectively integrates the other reading components. Apparently, no research was found that the manifest variables can be distributed into higher and lower ordered thinking skills. However, Bloom's taxonomy measures and provides a way/method in organizing such thinking skills, which highly involve metacognitive reading awareness. Each manifest variable vary, depending on the usage and situation, thus, the six major categories of Bloom's taxonomy can be used interchangeably.

After testing the subscales with the latent variables, items corresponding to each of the subscales were also tested using confirmatory factor analysis. The goodness of fit resulted that Phonics and Reading Comprehension were not significant manifest variables. Phonics is not a major factor but a basis of metacognitive reading awareness while Reading Comprehension is not a factor of metacognitive reading awareness but a result of using different reading strategies.

References

Alexander, P. A., & Jetton, T. L. (2000). Learning from text: A multidimensional and developmental perspective. In M. Kamil, P. B. Mosenthal, P. D. Pearson, and R. Barr (Eds.), *Handbook of reading research, Vol. III* (pp. 285–310). Mahwah, NJ: Erlbaum.

Allor, J.H. (2002). Winner of CLD's 2000 Award for Outstanding Research: The Relationships of Phonemic Awareness and Rapid Naming to Reading Development Learning Disability Quarterly (Vol. 25, pp. 47-57).

Baker, L., & Brown, A. L. (1984). Metacognitive skills and reading. In R. Barr, M. L. Kamil, P. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research* (Vol. 2, pp. 353–394). White Plains, NY: Longman.

Baumann, J.T. et al (2007). Vocabulary Tricks: Effects of Instruction in Morphology and Context on Fifth-Grade Students' Ability to Derive and Infer Word Meanings. *American Educational Research Journal*, *40*, 447-494.

Ehri, L.C. (2001). Systematic Phonics Instruction Helps Students Learn to Read: Evidence from the National Reading Panel's Meta-Analysis. *American Educational Research Association, 71(3),* 393-447.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist*, *34,* 906–911.

Hitchcock, C.H.(2004). Metacognition Reading Comprehension and Fluency: Examining the Effects of Tutoring and Video Self- Modeling on First-Grade Students with Reading Difficulties. Council for Learning Disabilities, *27(2),* 89-103.

Karns, J.M. (1983). Ehri, L.C. (2001). Systematic Phonics Instruction Helps Students Learn to Read: Evidence from the National Reading Panel's Meta-Analysis. *The Journal of Economic Education, 14(3),* 16-20.

Magno, C., & Ouano, J. (2008). *Designing Written Assessment of Student Learning*.

Mokhtari, K., & Sheorey, R. (2002). Measuring ESL students' awareness of reading strategies. *Journal of Developmental Education*, *25*(3), 2–10.

Mann, S. J. (2000). The Student's Experience of Reading. *Springer*, *29*(3), 297-317.

Maudus, E.F. (1973). A Causal Model Analysis of Bloom's Taxonomy. *American Educational Research Association*, *10(3),* 253-262.

N.A. (2004). A Closer Look at the Five Essential Components of Effective Reading Instruction: A Review of Scientifically Based Reading Research for Teachers. Learning Point Associates.

Paris, S. G., & Jacobs, J. E. (1984). The benefits of informed instruction for children's reading awareness and comprehension skills. *Child Development*, *55,* 2083–2093.

Paris, S. G., & Winograd, P. (1990). How metacognition can promote academic learning and instruction. In B. F. Jones & L. Idol (Eds.), *Dimensions of thinking and cognitive instruction* (pp. 15-51). Hillsdale, NJ: Erlbaum.

Pereira-Laird, J. A., & Deane, F. P. (1997). Development and validation of a self-report measure of reading strategy use. *Reading Psychology: An International Journal*, *18,* 185–235.

Schmitt, M. C. (1990). A questionnaire to measure children's awareness of strategic reading processes. *The Reading Teacher*, *43,* 454–461.

Smith, M.C. et al (1994). Do Everyday Reading Activities Promote Adults' Cognitive Development?. *Mid-Western Educational Research Association*, 1-9.

Zhang, L. J. (2008). Constructivist pedagogy in strategic reading instruction: Exploring pathways to learner development in the English as a second language (ESL) classrooms. *Instructional Science: An International Journal of the Learning Sciences*, *36*, 89–116.

Appendix
Final Form: METACOGNITIVE READING AWARENESS ITEMS

Phonemic Awareness- the ability to recognize the individual sounds or phonemes in spoken words.

1. I can make new words by adding or replacing a letter with another.
2. I can identify common sound/s between words.
3. I can split words into individual sounds.
4. I can recognize a word even if a letter is removed.
5. I can use letters to form different words.
6. I can identify the sound of the letters.
7. I can divide sounds into words.
8. I can pronounce words clearly.
9. I can blend sounds in order to form a new word.
10. When playing word games such as Scrabble, Word Factory, Text Twist, BookWorm, and the like, I have no difficultly forming words.
11. I can make a new word by replacing or adding a sound/s with another.
12. I can decode unfamiliar words.
13. I can form connections between the visual representation and the word.
14. I segment the letters of a word to understand it.
15. I can make full connections between the sequence of letters and its pronunciation.
16. I can identify the suffixes/prefixes used in a word.
17. I enjoy learning new words one at a time.
18. I can easily recognize unfamiliar words in print.
19. I ask another person if I could not pronounce a word.
20. I can notice the position and movements of the lips, tongue and teeth when someone speaks.

Phonics- the ability to use individual letters or groups of letters to form words.

•

1. I can read and spell words accurately.
2. I can combine vowels and consonants to form words.
3. I can recognize letters by name.
4. I can sound out multisyllabic words.
5. I know that by changing a letter in a word, I can change its meaning.
6. I can spell the words at ease without any mistakes.
7. I can pronounce the letters of alphabet clearly.
8. I can decipher a new word by linking it to a familiar word.
9. I can easily identify the sound and letter relations based from my past knowledge.
10. When reading, I convert letters to sound to form recognizable words.
11. I enjoy learning new words everyday.
12. I apply new words that I encountered when I read.
13. I practice the correct pronunciation of words.
14. I blend sounds to read the word.

15. I break spoken words with their corresponding sounds so I can write it.
16. I can acquire new words and use it in my everyday conversations.
17. I try my best to write the spelling of the new word that I acquired.
18. I ask the speaker to repeat the word again when I hear it.
19. I am easily distracted if I can't pronounce a word.
20. I could read alone confidently.

Reading Fluency -the ability to read words accurately and smoothly with speed and correct expression.

1. I easily recognize the words in the text rapidly and accurately.
2. I can read a text with accuracy.
3. I can read the text with speed.
4. I can read the text with expressions.
5. I practice reading aloud to develop my fluency.
6. I use my own reading strategy/technique.
7. I read the text word by word without any mistakes.
8. I try to go back and read if I don't understand the text.
9. I can read sentences with appropriate facial expressions.
10. I can pronounce unfamiliar words with ease and confidence.
11. I read the text at least twice.
12. I prefer someone reading the text for me first before I read it by myself.
13. I read along as the teacher reads the text aloud.
14. I read the text aloud for better understanding.
15. I stutter when I read aloud.
16. I monitor my fluency by recording my reading performance.
17. I practice reading in front of the mirror.
18. I can read with different pacing.
19. I can show emphasis on some words when reading.
20. I am confident whenever my teacher asks me to read a text out loud.

Vocabulary Development-it refers to a student's knowledge of the meaning of words.

1. Whenever I encounter a new word I try to apply it in my conversations.
2. I use new words that I learned in sentences.
3. I try to define the new word I learned in my own words.
4. I use the dictionary to look for unfamiliar words.
5. Whenever I read I would list down unfamiliar words.
6. I try to know the synonyms of the new word I encounter.
7. I try to know the antonyms of the new word I encounter.
8. I try to apply the new word I encountered in my future conversations.
9. When I learn a new word, I try to imagine or illustrate (visually) the word's meaning.
10. When I encounter a new word, I check if that word was repeated in the same text.
11. When I encounter a new word, I add it to my list.
12. I have a list of words which I want to learn.

13. I try to figure out the meaning of a new word from the context (context clues).
14. I read books even if it's not required.
15. When I encounter a new word, I try to make my own sentences using that word.
16. When I encounter new words, I connect new words with known words.
17. When I encounter a new word, I would say it out loud.
18. I use word parts or root words to determine the meaning of unfamiliar words.
19. I ask other people for the meaning of a word.

Reading Comprehension- it refers to the ability to understand and gain meaning from written material.

1. I can easily create questions regarding an article I just read.
2. I can create story maps based on the article I just read.
3. I usually relate the text I am reading and a text I have read.
4. I can tell the sequence of events in the book I read.
5. I can remember the names of the characters in the text I just read.
6. I can tell the key facts from the text I just read.
7. I can provide a variety of responses from the text I just read.
8. I can identify the main idea of the text I just read.
9. I can visualize the texts I read.
10. I can recall the texts I read.
11. I can summarize the text I read.
12. I can easily answer the questions I formulated.
13. I make predictions from the text that I read.
14. I can understand the important information in reading passages.
15. I re-read the text to enhance my understanding.
16. I read to discover something new.
17. I stop reading once in a while to think reflectively about the text.
18. I can paraphrase the text I read.
19. I can give my personal reaction/s to the passage I just read.
20. I can develop conclusions about the text I just read.

Moderating Language and Number of Mathematical Operations in the Relationship between Problem Solving Scores and Learning Strategies

TESOL Journal
Vol. 1, pp. 58-78

http://www.tesol-journal.com

Paul Ong
Vernice Liao
Rosee Alimon
De La Salle University – Manila

Abstract

This study tested the Cognitive Load Theory by investigating the relationship between problem solving and learning strategies when language (Filipino or English) and number of operations in math word problem solving tests (single or multiple) are varied. There were 275 grade five students who answered four sets of math tests (Single-Filipino, Single-English, Multiple-Filipino, and Multiple-English). They also answered the Revised-MSLQ every after each set of math test was answered. Using the Two-way Analysis of Variance, the mean scores for problem solving was significantly higher when the word problem is in Filipino as compared to English. No significant difference was found between single and multiple-operation on mathematics problem solving scores. This indicates that cognitive load occurs in language where problems written in Filipino are easier tasks. Further analysis also showed that the relationship between problem solving and learning strategies were significant when the language used in the math problems was in the students' first language (Filipino) regardless of the number of operations involved. Furthermore, it was found that the relationship between problem solving and learning strategies was strongest when math tests were written in Filipino involving single operation. These results showed that Cognitive Load Theory can occur not only in performance tasks but in language and use of learning strategies.

Introduction

The ability to solve word problems in mathematics is an important skill that needs to be developed by students. Through mathematical problem solving, students are able to apply their knowledge and skills to real world situations. However, solving word problems is one of the most difficult tasks that students consider in mathematics (e.g., Littlefield & Rieser, 1993; Wiest, 2002). The difficulty comes when students have to apply and assemble thoughts, concepts, and procedures to solve the problem (Heinze, 2005). Various models of mathematical problem solving (e.g., Carpenter et al., 1988) assume that the first task for the problem solver is to derive from the text an accurate mental representation of the

problem which will be used as a basis for choosing the solution processes that will operate. However, the most basic difficulty that students face in solving mathematical problems is their ability to understand the problem structure embedded in the word problem (Adams, 2003). It becomes more difficult when students need to comprehend the problem written in their second language (Bernardo, 1999). Various studies have shown that difficulties in mathematical problem solving are associated with difficulties in comprehending the problem especially when it is written in the learner's second language (Stern, 1993). In a study conducted by Cummins, Kintsch, Reusser, and Weimer (1988), they concluded that language comprehension processes determine whether students will be able to correctly understand the pieces of information and how these pieces of information relate to each other. Their choice of solution procedures is dependent on how they understand the elements in a mathematical word problem (Riley & Greeno, 1988). Among bilinguals, researchers have suggested that solving word problems is influenced by linguistic factors (e.g., Clarkson, 1992). Other studies such as De Corte and Verschaffel (1987) have noted that rewording of word problems have systematic effects in the problem solving performance of students. Such effects have often been associated with difficulties in understanding certain types of problems, such as those that use unclear and abstract language (Cummins, Kintsch, Reusser, & Weimer, 1988) or those wherein conceptual relationships expressed in the text do not map on to the quantitative relationships expressed in the problem (Riley & Greeno, 1988).

Problem Solving and Learning Strategies

Learning strategies are techniques that students use in a task such as how they sort out and use a set of skills to learn or finish a specific task successfully and competently (Schumaker, Deshler, Alley, Warner, & Denton, 1982). Such is when students are given mathematical word problems to solve, they use a variety of learning strategies to solve the problems. With this, students who use learning strategies become more effective and independent learners (Schumaker, Deshler, Alley, Warner, & Denton, 1982).

Learning strategies can also be defined as the "steps taken by students to enhance their own learning" (Oxford, 1990, in Oxford, Cho, Leung, & Kim, 2004). With this, learning strategies aid students to become active learners and become responsible for achieving solutions to problems as well as learning.

It is evident in literature that students employ learning strategies to aid them in mathematical problem solving. This was shown in studies by Scheiter, Gerjets, Vollmann, and Catrambone (2009), who found that learners who had more favorable characteristics (i.e., higher prior knowledge, more complex epistemological beliefs, more positive attitudes towards mathematics, better cognitive and metacognitive strategy use) tended to solve more problems correctly. In a study by Adetula (1990), results showed that Nigerian students scored higher in problem solving tests and use of strategies when problems were presented in their native language than in English (second language). This study supports the

Cognitive Load Theory, with the native language as the less difficult task, over English, which can be considered as the more difficult task. From previous studies, we can see that learning strategies are indeed used in mathematical problem solving tasks. In the present study, the researchers used the learning strategies measured by the Motivated Strategies for Learning Questionnaire (MSLQ).

Problem Solving and Number of Operations

Single Operation. This type of mathematical word problem involves using one step (i.e., Addition or Subtraction) in solving the problem (O'Connell, 2007, p.41). In the current study, this type of mathematical word problem is considered as the less difficult task. Various studies have concluded that students were able to solve all mathematics story problems involving single operation than in problems which have multiple operations (e.g., Carpenter, Corbitt, Kepner, Lindquist, & Reyes, 1980; Carpenter, Kepner, Corbitt, Lindquist, & Reyes, 1980, in Littlefield & Rieser, 1993).

Multiple Operation. This type of mathematical word problem involves using two or more steps (e.g., Addition & Subtraction, Addition & Addition) in solving the problem (O'Connell, 2007, p.41). The current study considers this type of mathematics word problem as a more difficult task than problems involving single operation. Studies regarding multiple operation reported that solving mathematical word problems with two or more steps create more difficulty in obtaining the right answers (e.g., Carpenter, Corbitt, Kepner, Lindquist, & Reyes, 1980; Carpenter, Kepner, Corbitt, Lindquist, & Reyes, 1980, in Littlefield & Rieser, 1993).

Problem Solving and Language

Studying language and how one gets hold of their language is indeed cognitive since it involves learning to think and not just learning to talk (Pinker, n.d.). How students understand and make representations to the meaning of a sentence may be inferred from their knowledge of the meanings of the words (Anderson, 1977).

What happens if the language used in presenting mathematical word problems are in the person's first or second language? First language spoken at home has a strong influence on the learning of mathematics at school (Adetula, 1990). This was supported by Bernardo's (1999) study wherein Filipino-English bilingual students and problem solving showed that they performed better in solving arithmetic problems presented in their first language (Filipino) since they are more accustomed to their first language, than in the students' second language (English). With this, we can say that better comprehension of the problem text may result in better problem solving performance.

The language used to express mathematical ideas and problems to students is a concern especially if the students are less proficient in that language. Clarkson (1992) studied on bilingual students in Papua New Guinea where they were tested

in English (not their first language). Results indicated that up to 39% of the errors were related to linguistic factors such as reading mistakes and comprehension errors. Clarkson (1992) also noted that these language errors had lower occurrence in native English speakers tested in English. Moreover, students made more errors in comprehension which resulted in more solution errors when the problem was written using the second and less proficient language of the students (Clarkson, 1992).

With the findings of previous studies, it is important to note the following perspectives on bilingualism in order to find possible explanations for such results. Grosjean (1992) discussed two important views on bilingualism, the monolingual or fractional view and the bilingual or wholistic view. Bilingualism refers to the "regular use of two or more languages" (Grosjean, 1992) while bilinguals are those who need and use two or more languages in their daily lives and have been exposed to both languages for a year or more (Grosjean, 1992; 1998).

The monolingual view of bilingualism mainly posits that "the bilingual has (or should have) two separate and isolable language competencies" (Grosjean, 1992). In addition, this perspective holds that bilinguals are "two monolinguals in one person" (Grosjean, 1998). However, Grosjean (1992) consider this view as having a number of negative consequences in the field research on bilinguals. One argument that Grosjean (1992) stated is that bilinguals have been assessed according to the fluency in the two languages they use. The monolingual view believes that the bilingual should be equally fluent in both languages. According to this view, bilinguals should speak and hear the two languages at the same level; otherwise, they are not considered a real bilingual. Another argument of the fractional view is that using two languages are considered accidental; the use of two languages should be separate, wherein using both languages at the same time (e.g., code-switching) is considered "sloppy language" (Grosjean, 1992). Because of this, the monolingual view does not consider that the competency of one's first language may be affected if it comes in contact with one's second language.

In relation to the present study, the monolingual view argues that students are equally fluent in Filipino (first language) and English (second language). This means that students will obtain the same scores regardless of the language used in writing the mathematical word problem solving tests. This perspective also argues that one's first language does not have any effect when students answer tests in one's second language and vice versa.

The other view of bilingualism is the bilingual or wholistic view, from which the present study finds support in. According to this view, Grosjean (1992) proposes that bilinguals are not two monolinguals in one person; rather, it is "an integrated whole which cannot be easily be decomposed into two separate parts" (Grosjean 1992). The contact between the two languages then forms a new language system, uniquely different from his first language or second language. Another argument of this view is that the two languages may be used separately or at the same time, depending on the call of different situations. In addition, these two languages are said to be rarely equally fluent, which depend on the need for using the language. Grosjean (1992) proposes another concept in relation to the bilingual view; the language learning and language forgetting. According to Grosjean (1992), a

person may shift from one language to another, meaning he may use the first language or the second language depending on the situation, but will never depart from each other.

In another perspective of the wholistic view of bilingualism, Grosjean (1998) discussed the language mode continuum of bilinguals. He stated that in most cases, the bilingual uses the base language as his main language, which is considered to be the most active. The second language may be deactivated and activated, depending on who the bilingual is communicating with. When the second language is deactivated, it may mean that the person one is talking to is monolingual (Grosjean, 1998). When both languages are activated (one is less activated), it may mean that the person he is communicating with is bilingual and prefers to use the two languages as well (Grosjean, 1998).

In relation to the present study, the researchers find support in the bilingual view of bilingualism, wherein the bilinguals' first (Filipino) and second (English) languages are not equally fluent. The first language therefore, is considered as the bilingual's more fluent language, while English is considered as less fluent. In connection with the Cognitive Load Theory, the bilingual's more fluent language is considered as the less difficult task, which may create less cognitive load on the student, therefore performing better in mathematical problem solving tests.

Cognitive Theories

Over the last decade or so, Cognitive Load Theory (Sweller, 1989) has been used to explore several instructional techniques. The theory suggests that an approach for teaching which makes students engage in activities not directed at schema acquisition and automation frequently assumes processing something that is greater than their limits, thus likely to be faulty. Such as when students are given long and narrative problems to solve, they will not be able to use previously acquired schemata to generate solutions. Nevertheless, they may still be able to find a solution, however solutions may be faulty (Sweller & Chandler, 1994).

The Cognitive Load Theory assumes that the human cognitive system can be characterized as consisting of a relatively poor working memory (Miller, 1956) coupled with an effectively limitless long-term memory (Sweller & Chandler, 1994) designed to store a huge number of schemata. Such that if the student has gained "suitable automated schemas, cognitive load will be low, and ample working-memory resources are likely to be free; whereas if the element processing of material must each be considered as a separate element in working memory for the reason that no schema is existing, cognitive load will be high" (Tuovinen & Sweller, 1999).

The applications with other variables are not limited to memory studies only. Studies using this theory in relation to problem solving, language used and learning strategies suggest that when considering intellectual activities (such as solving mathematical problems), cognitive load may be responsible in learning and problem solving difficulty (Sweller & Chandler, 1994). Such that Sweller (1989, 1994) recommended changing problem solving methods so as to avoid means-ends

methods that impose an extensive cognitive load, by using goal-free problems or the use of providing worked examples.

In the present study, the Cognitive Load Theory is used to explain findings of previous studies as to why Filipino students have difficulty in solving mathematical word problems written in their second language (English) as compared when mathematical word problems are written using their first language (Filipino). In a study by Bernardo (1999), he found that the error in choosing and using effective problem solving strategies is often caused by the difficulty in comprehending the word problems. With this, it can be inferred that being able to understand mathematical word problems is a prerequisite for students to be able to choose and use effective learning strategies in solving these problems.

Given the previous studies done regarding students' performance in mathematical problem solving and the language, the researchers sought to know if there will be a change in the relationship between problem solving and learning strategies when the language (English or Filipino) used in writing these problems are varied. Furthermore, the researchers also wanted to know how the number of operations in mathematical word problems would change the relationship between students' scores on problem solving and their use of learning strategies. The number of operations in a mathematical word problem is categorized as either having a single operation (involving one-step operation to arrive at the answer), or multiple operation (involving two steps to arrive at the solution of the problem).

The researchers tested the Cognitive Load Theory in the study which posits that as learners are given easier situations, they perform better (Mayer, Sobko, & Mautone, 2003). In the present study, this theory was tested through mathematical word problems stated in Filipino, involving single operation (as less difficult situations), which was hypothesized to increase the use of learning strategies. In this case, a stronger relationship between the scores in problem solving tests (with single operation written in Filipino) and learning strategies is expected.

If learners use their first language (Filipino) as their medium for learning, less cognitive load is used, and therefore, students will score higher in word problem solving and consequently have increased learning strategies. Bernardo (1999) found that Filipino students solved arithmetic word problems better when the problems were written in Filipino which is their first language. For mathematical word problems involving single operations, O'Connell (2007, p. 41) explained that one-step mathematical word problems are simpler, and given during primary grade levels. With this, several studies have reported that students were able to solve all mathematics story problems involving single operation (e.g., Carpenter, Corbitt, Kepner, Lindquist, & Reyes, 1980; Carpenter, Kepner, Corbitt, Lindquist, & Reyes, 1980, in Littlefield and Rieser, 1993) as opposed to solving mathematical word problems with two or more steps, which create more difficulty in obtaining the right solutions (Littlefield & Rieser, 1993).

The researchers seek to know the relationship between problem solving and learning strategies. Specifically, the study aims to determine if the number of operations in word problems (Single operation or Multiple operations) and the language (Filipino or English) used in mathematical problem solving tests can be

accounted for the significant change in the relationship between problem solving and learning strategies.

The correlation of students' learning strategy and scores in problems written in Filipino or English involving single and multiple operations shall be obtained. From the results of the correlation, we can determine which the two of languages (Filipino or English) used, and which number of operation (Single operation or Multiple operations) have higher correlations with learning strategies.

Method

Research Design

The research design of the study is explanatory as it intended to test the Cognitive Load Theory by studying the relationship between learning strategies and problem solving. Specifically, the study investigated the relationship between learning strategies and the language (English or Filipino) used in mathematical word problem solving tests. The relationship between learning strategies and the number of operations in a mathematics word problem (Single operation or Multiple operations) was also tested.

Participants

The researchers selected grade five students from different private schools in Manila. The initial sample included 320 students with ages ranging from10 to 12. After determining the first language, second language, as well as the proficiency of the students in the two languages, those who did not fit it the criteria were excluded in the study. The participants included the study were 275 (n_{males} = 40.36%; n_{females} = 59.64%) students, who are bilingual and both proficient in English and Filipino. The current study used purposive sampling because it targets grade five students from a private school, who are bilingual, proficient in both English and Filipino, with Filipino as their first language.

Materials and Instruments

Demographic Questionnaire. The participants answered a demographic questionnaire that asked the participants for their class number, grade and section, age, nationality, first language, second language, as well as a self-report questionnaire regarding their proficiency in the two languages. This was measured by using a scale of one to three (1 – Not Proficient, 2 – Proficient, 3 – Very Proficient) in the areas of reading, understanding, speaking, and writing. An average equal or greater than the mean was considered proficient (see Appendix A). Those who rated their proficiency in both languages lower than the mean was excluded from the study.

Motivated Strategies for Learning Questionnaire (MSLQ). The Motivated Strategies for Learning Questionnaire by Pintrich, Smith, Garcia, and McKeachie (1991) was used to measure students' learning strategies. This study only utilized the part of the questionnaire assessing students' cognitive and metacognitive learning strategies consisting of 31 items.

The cognitive and metacognitive section included learning strategies namely Rehearsal (4 items), Elaboration (6 items), Organization (4 items), Critical Thinking (5 items), and Metacognitive Self-regulation (12 items). All items are responded using a seven-point Likert scale (from 1 – Not at all true of me to 7 – Very true of me). In general, if students score above three on the questionnaire, then it means that they are using effective learning strategies. However, students who score below three mean that they are not using effective learning strategies (Pintrich, Smith, Garcia, & McKeachie, 1991). The scale is valid having a significant relationship with all the factors being assessed. It was shown in the confirmatory factor analysis that the learning strategies are under one latent factor. Furthermore, the scale is reliable having a Cronbach's Alpha value ranging from .52 to .93.

Considering that the subscales are under one Latent factor, it is justifiable to test the factorial structure of the items. To determine the possible reduction of factors of the learning strategies, factor analysis was used, specifically principal components analysis. The number of factors was assessed using a scree plot of the Eigenvalues. Since the use of learning strategies overlap, meaning, as students answer the mathematical problem solving tests, the strategies they use are interrelated, then it would be implied that they should be assessed as one, and not separately, the researchers used the unrotated analysis for factor loadings. Since the MSLQ was originally used to assess college students, the researchers consulted the English and Mathematics teachers and coordinators of the school to ensure that the items of the learning strategies questionnaire are answerable and appropriate for their grade five students. The teachers and the coordinators helped in revising the questionnaire by rewording the items to make it understandable for the grade five students. The teachers also helped in rewording the items of the questionnaire to fit with the mathematical word problem solving test that the students answered.

The 31 items of the revised Motivated Strategies for Learning Questionnaire (MSLQ) loaded under one factor using a principal components analysis. The Eigenvalues were assessed using a scree plot which showed that having one factor accounts for a large total variance (50.57%) as compared to two or three factors with very low variance (4.37% and 3.64 respectively). The factor loadings of all items are high (0.4 and above).

Mathematical Word Problem Solving Test. The mathematical word problem solving tests were constructed by the researchers based on the mathematics curriculum of grade five students developed by the Department of Education of the Philippines to ensure appropriateness of the researchers' intended participants in the study. The word problems include contents on addition and subtraction of fractions, decimals, and whole numbers.

The questionnaire included 32 mathematical word problems. Four sets of mathematical word problems were constructed. The first set of mathematical word

problems were written in Filipino involving single operation , the second set was written in English involving Single operation, the third set was written in Filipino involving multiple operations, and the fourth set was written in English involving multiple operations. Equivalence was established between the four sets of problem solving tests. The level of difficulty, length of the statements and the skills being measured were equivalent

The items of the four sets of mathematical problem solving tests were analyzed using the one-parameter Rasch model. The one-parameter Rasch model is a statistical analysis used to determine the item and person reliability of a test. The analysis identifies whether the items are difficult by assessing its logic measure; goodness of fit by examining the in fit mean square values (values should range from 0.80- 1.20); and item discrimination was assessed by looking at point biserial correlation of each item. Computed values for the infit mean square showed that all items were having a good fit.

Procedure

Grade five participants were randomly chosen by the school. The four sets of problem solving tests were administered to the students for two days. On the first day, the students answered two mathematical word problem tests. On the second day, the students answered the remaining two mathematical word problem tests. The students answered the revised Motivated Strategies for Learning Questionnaire (MSLQ) for four times, after they have answered each set of mathematics word problem test.

The participants were asked to complete the participant demographic questionnaire. The first set of mathematical word problem solving test were distributed to the participants. Directions were read and the participants were given 15 minutes to complete the said test.

After 15 minutes, the researchers collected the mathematical word problem solving test and distributed the revised (MSLQ). It was emphasized to the participants that when they answer the items of the revised MSLQ, they should think about the situations they had while answering the mathematical problem solving test that they have just completed. Ten minutes were allotted for answering the learning strategies questionnaire.

The same procedure was done in administering the second set of mathematical problem solving test and the revised MSLQ. On the second day, the third and fourth set of mathematical problem solving test were administered to the students, followed by the revised MSLQ for each set.

The four sets of problems solving tests were given out using counterbalancing technique where the six sections of grade five students answered two different sets at a time on two different days. The second data gathering day was conducted two days after the first data gathering day. Again, the six sections answered different sets of math tests. This counterbalancing technique was done primarily to avoid confounding among variables. This was done by having participants answer different types of tests on different days. Another technique done to make sure that students would not have too much stress in answering all

the four sets of math test in one day was splitting data gathering into two days, which were not consecutive.

Data Analysis

The data collected were statistically analyzed by correlating the scores of students in the mathematical word problem solving tests and the learning strategies from the revised MSLQ. Since the MSLQ is reduced to one factor, the analysis only considered the learning strategy having one dimension.

Scores for mathematics problems written in English and in Filipino with single operation and multiple operations were correlated to the learning strategies assessed in the learning strategies section of the MSLQ.

The differences in the correlations were obtained among the learning strategies with mathematical problems written in Filipino and between learning strategies with mathematical problems written in English. At the same time, the differences in the correlations were obtained among the learning strategies with mathematical problems involving single operation and between learning strategies with mathematical problems involving multiple operations. The correlation coefficients were analyzed further to see whether they are significantly different.

The correlation coefficients obtained from correlating scores from the problem solving test and learning strategies when problem solving is written in English involving single operation and when problem solving test was written in Filipino involving single operation was compared. Similarly, the correlation coefficients obtained from correlating scores from the problem solving test and learning strategies when problem solving is written in English and when problem solving test was written in Filipino was compared. By doing this, the researchers were able to test whether there was a significant change in the correlation coefficients if the language used (Filipino or English) and number of operations in a mathematical word problem (Single operation or Multiple operations) were varied.

Results

The items of the MSLQ were reduced to one factor using principal components analysis. In the further analysis, MSLQ was analyzed as one measure.

In order to determine on whether Filipino or English and Single operation or Multiple operations will differ on students score in the problem solving tests, the two-way ANOVA was used. This was done to establish whether cognitive load is carries on the language and no. of operations in the problem solving task.

Based on the comparison of means for problem solving using two-way ANOVA, there was a significant difference between problem solving tests written in Filipino and English on the problem solving scores of students (F = 78.932, p = 0.00). Means of the problem solving scores of students in written in Filipino (M = 5.95, SD = 2.16) and English (M = 4.74, SD = 2.32) showed that students scored significantly higher on problem solving tests written in Filipino. There was no significant difference on the problem solving scores of students involving single and multiple operations as well as their interaction (F = 1.21, p = 0.27, F = 0.001, p =

0.98). From these results, the researchers can infer that mathematical word problems written in the students' native language was an easier task for them having scored significantly higher on tests written in Filipino as compared when problems are written in English.

Table 1
ANOVA Summary Table

	SS	*df*	*MS*	*F*
Number of Operations	6.11	1	6.11	1.21
Language	396.00*	1	396.00*	78.93*
Number of Operations X Language	0.00	1	0.00	0.001
Error	5498.61	1096	5.02	

Note. * $p < .05$

Given that the current study finds support in the Cognitive Load Theory for the problem solving task, the Two-Way ANOVA was again used to determine whether students really used higher learning strategies when given task is easier. Given that scores on problem solving tests are higher when they are written in Filipino, the researchers wanted to determine whether it is the same on the students' learning strategy. It is assumed that students will have a higher score on learning strategy when problems are written in Filipino given the results for problem solving.

Based on the comparison of means for learning strategy using two-way ANOVA, there was significant difference between problem solving tests are written in Filipino and English (F = 15.43, p = 0.00) on learning strategy. Means of the scores of students in learning strategy when problems are written in Filipino (M = 4.41, SD = 1.35) is significantly higher as compared to English (M = 4.17, SD = 1.43) (See Table 4). In the same way, there was no significant difference on the learning strategy scores of students involving single and multiple operations as well as their interaction (F = 1.21, p = 0.27, F = 0.001, p = 0.98). Results from these analyses show that as students are able to highly use learning strategies when task is easy.

Table 2
ANOVA Summary Table

	SS	*df*	*MS*	*F*
Number of Operations	0.20	1	0.20	0.10
Language	15.43*	1	15.43*	7.98*
Number of operations X Language	7.27	1	7.27	3.76
Error	2118.46	1096	1.93	

* $p < .05$

Means for the four sets of mathematics problems solving tests (Single-Filipino, Single-English, Multiple-Filipino, Multiple-English) were calculated as well. We can see that language is a variable that can be accounted for the significant change in the problem solving scores of students (as tested using the two- way ANOVA).

Comparison of means was tested through two-way ANOVA and it was consistent that both Filipino and English had a difference in the students' problem solving test scores and learning strategies. The revised MSLQ had a Cronbach's Alpha of .97, which indicates a high reliability. The item and person reliability of the tests in mathematical problem solving were adequate using the one-parameter Rasch Model IRT approach.

Table 3
Means and Standard Deviation of Revised MSLQ and Problem Solving

	M	*SD*	*N*	Cronbach's Alpha	
MSLQ (learning Strategies)	4.29	1.40	1100	.97	
Single Operation	4.30	1.32	550		
Multiple Operation	4.27	1.46	550		
Filipino Language	4.41	1.35	550		
English Language	4.17	1.43	550		
Filipino Single Operation	4.50	1.27	275	.96	
English Single Operation	4.10	1.35	275	.96	
Filipino Multiple Operation	4.31	1.42	275	.97	
English Multiple Operation	4.23	1.50	275	.97	
Problem Solving				Item Reliability	Person Reliability
Single Operation	5.27	2.31	550	.96	.55
Multiple Operation	5.42	2.32	550	.97	.55
Filipino Language	5.95	2.16	550	.96	.43
English Language	4.74	2.32	550	.96	.59
Filipino Single Operation	5.87	2.16	275	.95	.48
English Single Operation	4.67	2.3	275	.92	.59
Filipino Multiple Operation	6.02	2.16	275	.95	.44
English Multiple Operation	4.82	2.33	275	.95	.60

Note. MSLQ is a 7-point scale; Problem solving has a total of 8 items

The main analysis of the study was to test the difference in the relationship between problem solving and learning strategies for Filipino and English and Single and multiple operation. It was hypothesized in the study that there will be a stronger relationship between learning strategies and problem solving when problem solving test is written in Filipino involving single operations.

Table 5 shows the correlation coefficients of learning strategies with the problem solving tests.

Table 5
Correlation Coefficients of Problem Solving and Learning Strategies

Type of Math Problem Solving Test	MSLQ
Filipino-Single	.13*
English-Single	-.0402
Filipino-Multiple	.10*
English-Multiple	-.0011

Note. * p < 0.05

Results of the present study showed that only the problem solving test written in Filipino involving single operation is significantly related with learning strategies (r = 0.13, p = 0.02) . Also, the problem solving test written in Filipino involving multiple operations is significantly related with learning strategies (r = 0.10, p = 0.02). Other sets of mathematical problem solving test (Single-English and Multiple-English) showed no significant relationship with learning strategies. These results suggest that only problem solving tests written in the learners' native language is significantly related with learning strategies. Therefore, students are able to use higher learning strategies when they are given word problems written in Filipino.

To determine whether the Pearson r's obtained for the relationship between problem solving and learning strategies across the four types of math tests were significantly different, the r's were compared. The combinations of the comparison are shown in Table 6. It can be determined which type of mathematical problem solving test was the relationship between problem solving and learning strategies strongest.

Table 6
Difference of r's

Type of Math Problem Solving Test and MSLQ	*R*	Type of Math Problem Solving Test and MSLQ	*r*	*p* values
Filipino-Single	.13*	English-Single	-.0402	.04*
Filipino-Single	.13*	Filipino-Multiple	.10*	.72
Filipino-Single	.13*	English-Multiple	-.0011	.13
English-Single	-.0402	Filipino-Multiple	.10*	.10
English-Single	-.0402	English-Multiple	-.0011	.65
Filipino-Multiple	.10*	English-Multiple	-.0011	.24

Note. * p < 0.05

Results showed that only the difference of r's between 0.13 (relationship between Filipino-Single Problem Solving and Learning Strategy) and -.04 (relationship between English-Single Problem Solving and Learning Strategy) is

significant (p = .04). However, results showed that the difference of r's between other sets of math tests and its relationship with learning strategies were all insignificant.

The relationship between problem solving and learning strategies changes when the language used in the problem solving test is varied to English or Filipino. Specifically, the relationship between mathematical problem solving test written in Filipino involving single operation and learning strategies is stronger (r = .13*) as compared to the relationship between problem solving test written in English involving single operation and learning strategies (r = -.04). This result supports the Cognitive Load Theory, which states that when students are given less difficult tasks (problem solving test written in Filipino involving single operation), they score higher and are able to use higher learning strategies.

Discussion

The present study mainly hypothesized that there is a stronger relationship between problem solving and learning strategies when mathematical problem solving tests are easy. The easy task in solving a problem is operationally defined as those problems that are written in Filipino and involving single operation as compared to the relationship between problem solving and learning strategies when problem solving tests are written in English involving multiple operations.

It was found in the present study that the relationship between problem solving and learning strategies is stronger when the word problem is written in Filipino (Students' first language) than in English (Students' second language). The findings of the study were supported by past studies explaining that students' performance on problem solving tests written in their first language are better than when tests were written in the learners' second language (Adetula 1990; Bernardo, 1999). The results are supported by Bernardo's (1999) study, wherein bilingual students scored higher in arithmetic problems written in the language that they are more accustomed with (First language). There are difficulties encountered in the comprehension of a problem that is based on how accustomed the students are with the language used in writing the word problem. This may explain why students scored higher in mathematical problem solving test written in Filipino than in English.

In relation to the use of learning strategies in mathematical problem solving, results showed that students employed higher learning strategies when problem solving tests were written in Filipino than in English. This support Adetula's (1990) study where students scored higher in problem solving tests and employed higher use of strategies when the problems were presented in their native language than in English. In the present study, the same results were found where students obtained higher scores in problem solving and used higher learning strategies when the problem solving test was written in Filipino. In addition, the findings found support in Scheiter, Gerjets, Vollmann, and Catrambone's (2009) study, wherein students who had more favourable characteristics, such as using cognitive and metacognitive strategies solved more problems correctly.

From the results of the present study, the Cognitive Load Theory is extended as manifested in the use of one's native language in a task. The use of one's language in problem solving tasks account for the following new assumptions:

1. One's native language facilitates the use of learning strategies
2. The role of one's native language in the student's ability to solve problems and learning strategies
3. Support for the Wholistic view of Bilingualism in the study
4. Similarity of cognitive load for single and double operations in a problem solving task

From the results of the correlation between problem solving and learning strategies, wherein students scored higher in problem solving tests written in their first language, we can say that one's native language can facilitate the use of learning strategies. This occurs when students use more learning strategies when they are presented with problem solving tests written in their native language, such as Filipino. This means that they are able to allocate more cognitive resources for comprehension of the problem text rather than in understanding the language (such as a second language) used in writing the math problems. In the same way, problem solvers employ higher learning strategies since they are able to utilize more techniques in completing tasks rather than in understanding the language. This is because students allot more time and resources in planning for the solution of the problem such as using learning strategies, whereas if the word problems are written in English, which lessen their time for planning techniques in solving the problems because they will first need to understand the language used in writing the word problems. Therefore, if the problem solving task is written in the students' native language, they are able to fully devote their cognitive resources in using learning strategies when solving the problems and thus lead to the correct answers.

In relation to the Cognitive Load Theory, we can consider a higher use of learning strategies when students are given easier tasks. Such that when students are given less difficult tasks, less cognitive load occurs and therefore they are able to allot more cognitive resources for planning for the solution of a problem with the use of learning strategies.

The allocation of cognitive resources involved in solving problems when written in a second language has two levels of processes that are simultaneously occurring. These two levels of processing involve comprehending the second language and the other in solving the problem which maximizes one's cognitive resources. When there are two or more processes used, the cognitive resources then becomes more limited since both declarative knowledge in processing the language and procedural knowledge in solving the problems are used. The native language serves as an automatic process that lets the learner perform a task without too much conscious awareness and demand little or no effort.

In connection with the Cognitive Load Theory, the learners' first language is considered as which create less cognitive load on the students. Therefore, when the task is written in the students' native language, it would require less cognitive resources because cognitive resources are fully used for solving the problem alone,

and students are able to proceed in solving the problem at once. On the other hand, when the problems are written in the learners' second language, they undergo a parallel process where they find ways to solve the problem and at the same time comprehend the language used to solve that problem. This results to decreased performance as in the case of the results of the present study. There are several processes undertaken in comprehending a second language such as finding meanings of ambiguous concepts, at the same time, there several processes to be undertaken when solving the problem such as assembling thoughts, concepts, and procedures (Heinze, 2005). These processes make students select appropriate learning strategies and arrive at the correct answer to the problem.

The second note explains the role of one's native language in a learner's ability to solve problems with the use of strategies. This may be explained by metalinguistic awareness, which is used to describe the relationship between language and text among bilinguals (Mora, n.d.). This construct refers to the ability of the learner to be aware of his linguistic capabilities. When students are aware of his language, such as his native language, he is able to attend to the task effectively with the use of learning strategies. Thus, his ability to solve the word problems may be enhanced. With this, when students score low in problem solving tests written in their second language such as English, it does not mean that they have low problem solving abilities; rather, their linguistic capabilities in that language (Second language) may be low.

Metalinguistic ability also helps students to view and analyze language as a process and as a technique to aid them in solving the problems (Mora, n.d.). Since the students have an implicit awareness in their first language, they will have better ability to solve the problems and when the problems are contextualized in their own native language. In addition, the ability in solving problems and using learning strategies are better when problem solving tests are written in the native language of the problem solver since they are able to maximize their potential in solving problems.

In view of the role of one's native language in the learner's ability to use strategies, Cognitive Load Theory may be extended by considering the linguistic capabilities of the learners. When students are presented with word problems in their first language, they are implicitly aware of their capabilities in the given language presented in the text. As students recognize that they are capable to read and understand the given text, they recognize that the task given is easy therefore it gives them more room for using techniques in order to arrive at the correct answer to the problem text. Therefore, when students use learning strategies, they are able to complete the task effectively with fewer errors.

Based from the results of the difference between the *r*'s obtained, wherein it was found that there is a stronger relationship between problem solving tests written in Filipino involving single operations, we can consider Grosjean's (1992) Wholistic view of Bilingualism in the present study. The Wholistic view of Bilingualism argues that bilinguals are rarely equally fluent in both languages. They can be competent and fluent in both languages, but the level of fluency may differ depending on "what the language is used for, with whom and where" (Grosjean, 1992). In this case, students may be more fluent in their first language (Filipino),

which accounts for the higher scores in problem solving tests written in their first language.

Another perspective of the Wholistic view is the language mode continuum of bilinguals, wherein the bilinguals' two languages may never depart from each other, but may be activated or deactivated depending on who the person in communicating with. When students are presented with word problems written in their first language (most active language), the second language may be deactivated since the learner may not require the aid of the second language anymore in order to solve the problems. Therefore, they will be able to allot more cognitive resources for understanding the word problems. Whereas when learners are presented with word problems written in their second language (less fluent language), their first language (more fluent language) may need to be activated in order to aid them in understanding some ambiguous words in the problem. Cognitive resources are then divided into both understanding the language with and comprehending the problem as well. Therefore, less cognitive resources are allotted for understanding the problem text, which may lead to lower scores in mathematical problem solving tests.

We can see that language is a variable that plays a significant change in the performance of students especially in mathematical problem solving, while the number of operations in mathematical problems is not a variable that caused any change in the performance and relationship between problem solving and learning strategies. The number of operations involved in problem solving tests is not a variable that accounts for a significant change in the relationship between problem solving and learning strategies since both numbers of operations are not highly different in terms of the level of difficulty; single operation involves one-step to arrive at the answer and multiple operations are limited to two-step operations in solving the problems which are not distinct. When students take mathematical problem solving tests, differences in the number of operations are not noticed by the students. Therefore, the amount of cognitive resources allotted for word problems involving single operation and multiple operations are not changed. In the same way, the use of learning strategies remains constant regardless of the number of operations involved in the word problems. Therefore, their performance and the use of learning strategies on both tests do not change.

Based on the findings of the present study, the Cognitive Load Theory may be extended by adding the role of learning strategies and language on less difficult tasks in the context of mathematical problem solving. When easier tasks (less cognitive load) are correlated with learning strategies, we can expect a linear relationship between the two variables; students who are given less difficult tasks are likely to employ higher learning strategies, and therefore obtain higher scores in those tasks. With this, the learning strategies that students use can be accounted for the improvement of their performance as measured by their problem solving scores.

The findings of the study suggest a call for more enhancement programs for students to make them think in English. The teachers will need to exert more effort on training students to think in English. Based from the results of this study and previous studies, answering mathematical word problems written in the

students' second language such as English, is a weakness in the students since there is an issue that students are less fluent in their second language. Therefore, the teachers should supplement their teaching to enhance more learning strategies for mathematical word problems written in English. When the students are trained to think in English, they will gain more capacities and abilities in the aspect of language in mathematics, thus they are likely to achieve in the subject.

References

Adams, T. L. (2003). Reading mathematics: More than words can say: An understanding of mathematical literacy draws on many of the same skills as print literacy. *The Reading Teacher, 56*(8), 786-795.

Adetula, L. (1990). Language factor: does it affect children's performance on word problems?. *Educational Studies in Mathematics*, *21*, 351-365.

Anderson, J. (1977). Induction of augmented transition networks. *Cognitive Science, 1,* 125-157.

Aiken, L. (1972). Language factors in learning mathematics. *Review of Educational Research*, *42*, 359-385.

Cuevas, G. J., & Beech, M.C. (1983). A second-language approach to mathematics skills: Application for limited-English proficient students with learning disabilities. *Learning Disability Quarterly, 6*(4), pp.489-495.

Bernardo, A. B. I. (1999). Overcoming obstacles to understanding and solving word problems in Mathematics. *Educational Psychology*, *19*(2), 149-163.

Bernardo, A. B. I. (2002). Language and mathematical problem solving among bilinguals. *The Journal of Psychology, 136*(3), 283-297.

Bernardo, A., & Calleja, M. (2005). The effects of stating problems in bilingual students' first and second languages on solving mathematical word problems. *The Journal of Genetic Psychology*, *166*, 117-128.

Bobis, J., Sweller, J., & Cooper, M. (1993). Cognitive load effects in a primary-school geometry task. *Learning and Instruction, 3,* 1-21.

Carpenter, T. P., Corbitt, M. K., Kepner, H. S., Lindquist, M. M., & Reyes, R. E. (1980). Solving verbal problems: Results and implications from National Assessment. *Arithmetic Teacher, 8,* 8-12.

Littlefield, J., & Rieser, J. J. (1993). Semantic features of similarity and children's strategies for identifying relevant information in mathematical story problems. *Cognition and Instruction, 11*(2), 133-188.

Carpenter, T. P., Kepner, H. S., Corbitt, M. K., Lindquist, M. M., & Reyes, R. E. (1980). Results and implications of the second NAEP Mathematics assessments: Elementary school. *Arithmetic Teacher, 27*, 10-12, 44-47.

Littlefield, J., & Rieser, J. J. (1993). Semantic features of similarity and children's strategies for identifying relevant information in mathematical story problems. *Cognition and Instruction, 11*(2), 133-188.

Carpenter, T. P., Moser, J. M., & Bebout, H. C. (1988). Representation of addition and subtraction word problems. *Journal for Research in Mathematics Education, 19*, 345-357.

Chamberlin, S. A. (n.d.) *What is problem solving in the mathematics classroom*. Retrieved July 31, 2009, from http://74.125.153.132/search?q=cache:TKX2hdSKJ-gJ:people.exeter.ac.uk/PErnest/pome23/Chamberlin%2520What%2520is%2520Math%2520Prob%2520Solving.doc+mathematical+Problem+Solving+definition&cd=10&hl=tl&ct=clnk&gl=ph.

Clarkson, P. C. (1992). Language and mathematics: A comparison of bilingual and monolingual students of mathematics. *Educational Studies in Mathematics, 23*(4), 417-429.

Cohen, J. (1975). *Applied Multiple Regression/ Correlation Analysis for the Behavioral Sciences*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Cooper, G., & Sweller, J. (1987). Effects of schema acquisition and rule automation on mathematical problem-solving transfer. *Journal of Educational Psychology, 79*(4), 347-362.

Cuevas, G. J. (1984). Mathematics learning in English as a second language. *Journal for Research in Mathematics Education, 15*(2), 134-144.

Cuevas, G. J. & Beech, M.C. (1983). A second-language approach to mathematics skills: Application for limited-English proficient students with learning disabilities. *Learning Disability Quarterly*, 6(4), 489-495.

Cummins, D. D., Kintsch, W., Reusser, K., & Weimer, R. (1988). The role of understanding in solving word problems. *Cognitive Psychology, 20*, 405-438.

De Corte, E., & Verschaffel, L. (1987). The effect of semantic structure on first graders' strategies for solving addition and subtraction word problems. *Journal for Research in Mathematics Education*, *18*(5), 363- 381.

Durkin, K., & Shire, B. (Eds.). *Language in Mathematical Education*. Buckingham UK: Open University Press.

Grosjean, F. (1992). Another view of bilingualism. *Cognitive Processing in Bilinguals*, 51-61.

Grosjean, F. (1998). Studying bilinguals: Methodological and conceptual issues. *Bilingualism: Language and Cognition, 1*, 131-149.

Grosjean, F., & Miller, J. L. (1994). Going in and out of languages: An example of bilingual flexibility. *American Psychological Society, 5*(4), 201-206.

Heinze, K. (2005). *The Language of Math*. Retrieved July 26, 2009, from http://kathrynheinze.efoliomn2.com/index.asp?Type=PRESENTS&SEC={38BC175A-7412-4E12-B5F8-FEDAB3533CC8}.

Littlefield, J., & Rieser, J. J. (1993). Semantic features of similarity and children's strategies for identifying relevant information in mathematical story problems. *Cognition and Instruction, 11*(2), 133-188.

Magno, C. (2009). How I learned to speak English: Factors involved in ESL acquisition among Filipinos. *Philippine ESL Journal, 3*, 127-141.

Mayer, R. E., Sobko, K., & Mautone, P. D. (2003). Social cues in multimedia learning: Role of speaker's voice. *Journal of Educational Psychology, 95*(2), 419–425.

McGregor, M., & Price, E. (1999). An exploration of aspects of language proficiency and algebra learning. *Journal for Research in Mathematics Education*, 30(4), 449-467.

Miller, G. A. (1956). The magical numbers seven, plus or minus two: Some limits on our capacity for processing information. *The Psychological Review, 63*(1), 81-97.

Mora, J. K. (n.d.) *Metalinguistic Awareness As Defined Through Research*. Retrieved November 20, 2009, from http://coe.sdsu.edu/people/jmora/moramodules/MetaLingResearch.htm

Nesher, P., & Teubal, E. (1975). Verbal cues as an interfering factor in verbal problem solving. *Educational Studies in Mathematics, 6*, 41-51.

O' Connell, S. (2007). *Introduction to Problem Solving*. Portsmouth, NH: Heinemann.

Oxford, R. L. (1990). *Language Learning Strategies: What Every Teacher Should Know*. Boston: Heinle & Heinle.

Oxford, R., Chu, Y., Leung, S., & Kim, H. (2004). Effect of presence and difficulty task on strategy use: An explanatory study. *Journal for Research in Mathematics Education, 42*(1), 1-47.

Oxford, R., Chu, Y., Leung, S., & Kim, H. (2004). Effect of presence and difficulty task on strategy use: An explanatory study. *Journal for Research in Mathematics Education, 42*(1), 1-47.

Pinker, S. (n.d.). *Language Acquisition*. Retrieved November 13, 2009, from http://users.ecs.soton.ac.uk/harnad/Papers/Py104/pinker.langacq.html.

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). *A Manual for the Use of Motivated Strategies for Learning Questionnaire*. The Regents of The University of Michigan: U.S.A.

Quintero, A. H. (1983). Conceptual understanding in solving two-step word problems with a ratio. *Journal for Research in Mathematics Education, 14*(2), 102- 112.

Riley, M. S., & Greeno, J. G. (1988). Developmental analysis of understanding language about quantities and of solving problems. *Cognition and Instruction, 5*(1), 49-101.

Scheiter, K., Gerjets, P., Vollmann, B., & Catrambone, R. (2009). The impact of learner characteristics on information utilization strategies, cognitive load experienced, and performance in hypermedia learning. *Learning and Instruction, 19*, 387-401.

Schumaker, J. B., Deshler, D. D., Alley, G. R., Warner, M. M., & Denton, P. H. (1982). A learning strategy for improving reading comprehension. *Learning Disability Quarterly, 5*(3), 295-304.

Secada, W. G. (1992). *Race, ethnicity, social class, language, and achievement in mathematics.* in Cuevas, G. J. & Beech, M.C. (1983). A second-language approach to mathematics skills: Application for limited-English proficient students with learning disabilities. *Learning Disability Quarterly*, *6*(4), 489-495.

Selter, C. (2001). Addition and Subtraction of Three-Digit Numbers: German Elementary Children's Success, Methods and Strategies. *Educational Studies in Mathematics, 47*(2), 145-173.

Shmais, W. A. (2003). Language learning strategy use in Palestine. *Teaching English as a Foreign Language, 7*, 1-5.

Stern, E. (1993). What makes certain arithmetic word problems involving the comparison of sets so difficult for children?. *Journal of Educational Psychology*, *85*, 7-23.

Sweller, J. (1994). Cognitive load theory, learning difficulty, and instructional design. *Learning and Instruction, 4*, 293-312.

Sweller, J. (1989). Cognitive technology: Some procedures for facilitating learning and problem solving in mathematics and science. *Journal of Educational Psychology, 81*(4), 457-466.

Sweller, J., & Chandler, P. (1994). Why some material is difficult to learn?. *Cognition and Instuction, 12*(3), 185-233.

Tuovinen, J. E., & Sweller, J. (1999). A comparison of cognitive load associated with discovery learning and worked examples. *Journal of Educational Psychology, 91*(2), 334-341.

Van de Walle, J. A. (1998). *Elementary and Middle School Mathematics*. USA: Addison Wesley Longman, Inc.

Wiest, L. R. (2002). Aspects of word-problem context that influence children's problem-solving Performance, *Focus on Learning Problems in Mathematics*. Retrieved July 26, 2009, from http://findarticles.com/p/articles/mi_m0NVC/is_2_24/ai_93211025/.

Yeo, G., & Neal, A. (2008). Subjective cognitive effort: A model of states, traits, and time. *Journal of Applied Psychology, 93*(3), 617–631.

Constructing a Self-Regulation Scale Contextualized in Writing

TESOL Journal
Vol. 1, pp. 79-94
©2009
http://www.tesol-journal.com

Ma. Theresa Carmela E. Kanlapan
Joseph C. Velasco
De La Salle University- Manila

Abstract

Self-regulation integrates learning behaviors or strategies, motivation, and metacognition. In the context of academic writing, it is believed that self-regulation, as manifested through self-reflective and self-evaluative activities, may predict one's writing success. The present paper aims to develop a self-regulation scale contextualized in written communication skills. It made use of Zimmerman's (2002) characterization of the self-regulation processes namely: (1) setting specific proximal goals for oneself, (2) adopting powerful strategies for attaining the goals, (3) monitoring one's performance selectively for signs of progress, (4) restructuring one's physical and social context to make it compatible with one's goals, (5) managing one's time use efficiently, (6) self-evaluating one's method, (7) attributing causation to results, and (8) adapting future methods. It was found that these perceived eight factors of self-regulation can be better concretized if placed under the three-stage model of self-regulation which involves the forethought phase, the performance phase, and the reflection phase.

It is known that self-regulation indeed develops autonomous learners that are responsible for their own learning. In a general sense, self-regulation is any thought, action or feelings towards attaining educational goals and is evidently the management of one's own thinking. In the writing, self-regulation entails several stages which initially starts from goal setting and terminates at the adaptation of future methods. In this consideration, this paper aims to create a self-regulation scale that caters to the writing discipline. Moreover, the paper intends to analyze the self-regulation in writing of undergraduate students.

Self-Regulation and Writing

A study related to self regulation was done by Zimmerman and Bandura (1994). It discussed the outcomes of self-regulatory influence on the success in a writing course. According to the researchers, self-regulation functions through an array of psychological sub functions for instance self-monitoring of one's activity, applying personal standards for judging and directing one's performances, enlisting self-reactive influences to guide and motivate one's effort, and employing appropriate strategies to achieve success. Also, it is not automatic that when one has self-regulatory skills the person applies it in the midst of difficulties, stressors or competing attraction. With that upheld, students register the highest sense of efficacy to manage the content aspects of instruction, but a low sense of efficacy to

manage themselves to get their activities done. In their study, the participants were 95 freshmen students from a highly selective university and had an age range of 17 to 20 years old; 47 were enrolled in a regular class and 48 attended the advance classes. The researchers administered the measures of different self-regulatory factors to the students at the beginning of the academic quarter and the instructor provided the final grades at the end of the academic quarter as a measure of the student's writing attainment. The outcome of the study signified that the different facets of self-efficacy played a big role in the attainment in the writing course which in turn augment the goals that the students have placed for themselves and the quality of writing with which they would be pleased. Lastly, it was suggested that self-regulative strategies that maintain intention by means of self-enhanced concentration, task management, and completion are crucial for success academically.

Singer and Bashir (1999) conducted a research which also made use of the self-regulated approach in dealing with oral and written communication skills. This intervention was implemented on one sixteen year old student with some speech-language evaluation. Singer and Bashir believe that strategies for speaking and writing are correlated with the three sub-processes of self-regulation. The student, George, learned to recognize the feeling that he experienced when dealing with ineffective verbal expression such as anxiety, louder volume, and pitch through self-reflection and self-evaluation strategies which the researchers taught him. George's ability to become more self-regulated progressed rapidly. By the end of that school year, George's communication skills improved.

Plata (2008) did a similar study regarding the use of self-regulation as a strategy in language learning. She explored Freshman Composition students' reflection in their journals to find out the role of the three-stage model of self-regulatory prompts in student's learning and metacognition. She collected 47 journals from two classes comprising of 22 Liberal Arts students and 25 from Engineering. Her study revealed that giving students prompts that manifest the cycle of self-regulation can increase student's awareness of their learning. Results of the study also indicate that the prompts not only give students the experience of minding their own thinking but also making them aware of the depth and breadth of their learning experience.

Scale in Self-Regulation in Writing

Hamman (2005) created a self-regulation scale in writing in which the data collected were already part of a regular course requirement, but only the students who gave consent had their measures used in the data analysis. There were 82 participants of the study, 69 females and 13 males at a large Midwestern University. This study was constructed as a descriptive study to examine beginning education majors' beliefs about writing and epistemology, as well as their reported self-regulatory behaviors. The study was initiated for gaining better understanding about students' attitudes about writing and learning, and as well as determining if these beliefs were related to self-regulated behaviors in writing tasks. It was hoped that the results from this study would provide the College of Education with knowledge for

course instructors to better support students in writing tasks, as well as to lead to continued research in this area.

Self-Regulation and Acquiring Revision Skills

Zimmerman and Kitsantas (1999) conducted a study regarding the use of strategies in writing. Their participants in their study are eighty-four female high school students coming from a parochial school with ages ranging from 14 to 17 years old. Most of the participants are coming from the middle class and from different ethnic background. The tasked administered by the researchers was sentence-combination; specifically, twelve writing revision problems consisting of 6 to 10 kernel sentences adapted from Strong (1981). The study focused on the three goal setting techniques namely: process goal, outcome goal and shifting process-outcome goal. The students were divided into two groups; the experimental groups were based on the three types of goal setting and the two variations in self-recording. The eighty four participants were assigned to six experimental conditions with 12 participants in each group. The conditions are as follows for the experimental group: (a) outcome goal but no self-recording, (b) outcome goal with self-recording, (c) process goal but no self-recording, (d) outcome goal with self-recording, (e) shifting goal with self-recording, (f) shifting goals with self-recording, (g) practice only control group (no goal setting or self-recording). The results revealed that setting process and outcome goals structurally did create improved self-motivation. Establishing hierarchical goals affected the participant's ascription for unsatisfactory revision operation. Conclusively, the researchers strongly believed that the students require social guidance during the preliminary levels of learning complex skills to accustom them to employ in optimally efficient self-directed performance. At the end, it was discovered that the participants who modified goals sequentially from process to outcome goals exceeded others who abide only to solely process or outcome goals.

Zimmerman and Kitsantas (2002) performed a study on the subject of modeling and feedback on the acquisition of writing revision. Their study delved on the effectiveness of teaching designed to optimize observational and emulative learning on the acquisition of writing-revision proficiency, self-efficacy perceptions, intrinsic interest, and self-reactions. The participants of their study were 72 college students, 36 are male and 36 are female with predominantly Caucasian background. The mean ages of the participants were 19 years and 9 months; 41 students are freshmen, 26 are sophomores and 4 juniors. The writing task employed for the observational training, emulative or imitation practice and post testing is composed of writing-revision problems, each concerning 6 to 10 kernel sentences that the students were asked to merge into non-recurrent sentences. Also, the researchers made use of the following scales: (1) self-efficacy scale, (2) self-satisfaction scale and (3) intrinsic interest scale. The 72 students were randomly assigned to a group which comprises of 6 female and 6 males and were put into the following conditions (a) no modeling without social feedback, (b) no modeling with social feedback, (c) mastery modeling without social feedback, (d) mastery modally with social feedback, (e) coping modeling without social feedback, (f) coping modeling with social feedback. The outcome of the experiment demonstrated that

during the observational learning, students in the coping-model group exceeded those in the mastery model group and the mastery model group did better than the no-model control group. In due course, exposure to a coping model who struggled to put into practice a writing revision strategy, produced not only better observational learning but also more efficient practice experiences and finer acquisition during post testing than a mastery model or no model. This exemplary modeling experience also delves into superior forms of self-regulation such as greater self-satisfaction and intrinsic interest, than mastery models.

Method

Research Design

This study is predominantly an analysis of the scale that was created by the researchers. The analysis included a confirmatory factor analysis to verify whether the variables indeed show a relationship to its construct. Moreover, the reliability and validity of the scale were verified using different statistical measures such as Cronbach's Alpha and the construct validity respectively.

Participants

The participants in this study were 300 undergraduate students with the ages ranging from eighteen (18) to twenty-two (22) taking up different academic programs at different universities in Manila. Among the participants, there were 92 males and 115 females. Most of the subjects were Filipino, and a very few were of different nationalities. Random sampling was utilized for the selection of the participants.

Materials

The self-regulation scale constructed by the researchers is based on the scale created by Zimmerman (2002) and is contextualized in the writing discipline. The items were checked by a language teaching professional who is a faculty of English and Applied Linguistics.

Item Writing

Items were created on the eight subscales of Zimmerman (2002). The subscales are as follows: (1) Setting specific goals for oneself which is the initial phase of the self-regulation cycle. This phase deals with the formulation of objectives that will be achieved for a specific task. (2) The second phase of the self regulation cycle is restructuring one's physical and social context to make it compatible to one's goal indicates the use if imagery, self-instruction, attention-focusing and task strategies. (3) The adaptation of powerful strategies signifies how the individual utilizes appropriate strategies for a task in which the objectives will be achieved. (4) Monitoring one's performance selectively for signs of progress refers to the ability of the individual to keep track of their progress in the task they are doing. (5) Managing one's time efficiently refers to the strategies that individuals use

to fit their entire pending task to their availability. (6) Evaluation one's method refers to the comparison of self-observed performances against some standard, such as one's prior performance, another person's performance, or an absolute standard of performance. (7) Attributing causation to result refers to the beliefs about the cause of one's errors or successes. Last is (8) the adaptation of future methods which bring about the use of potential techniques that can be used to enhance output.

Item Review

The items were reviewed by a specialist of language teaching. The results of the item review indicate that the scale has 98 approved items. Two items were rejected from the *goal setting* of the scale and another 2 items were rejected from the *time management* phase. Items that were placed in the revision status are as follows: two from the goal setting phase, one from the restructuring of physical and social context, one for the attribution of causation to results and another one for the adaptation of future methods. The actual reviewed scale is in Appendix A of this paper.

Procedures

The researchers constructed a self-regulation scale which is contextualized on the writing discipline by means of the eight subscales by Zimmerman (2002) consisting of 110 items. After the scale was constructed, the items were analyzed by a faculty of English and Applied Linguistics. The scale underwent rigorous revision as recommended by the faculty who checked the items. The scale was administered to 300 random undergraduate students from different Universities. The data collected was encoded for basic analysis and later on for further scrutiny as exemplified by Confirmatory Factory Analysis. After conducting the CFA, the researchers revised the scale accordingly.

Measures of Validity and Reliability

Cronbach's Alpha. The researchers used the Cronbach's Alpha to check the reliability of the items of the self-regulation in writing scale. This method was utilized in order to estimate the internal consistency of the items. Moreover, it checked the consistency of the responses to all the items homogeneity of items. The computation for the Cronbach's Alpha was done for each subscale, as well as for the overall scale. The researchers wanted to see if there is internal consistency amongst the items for very subscale, and so as consistency for the whole scale they created.

Construct Validity. This form of validity measures the extent to which the scale may be said the measure a theoretical construct or trait. Two forms of the construct validity were utilized in this study. The first one is through factor validity where in the researchers made use of the Confirmatory Factor Analysis which is generally utilized to assess the best factor structure or model of a particular

construct. Factor analysis is a mathematical procedure that comprise of arriving with sources of variation among the constructs concerned. Factor analysis reduces the number of variables and it detects the structure in the relationships between variables or classified variables. In this research, the parameter of the model is estimated and also the goodness of fit of the solution to the data is evaluated. This research also made use of convergent validity to observe the intercorrelation of all eight factors. The researchers expected a significant and positive correlation amongst the factors since they are perceived to be theoretically convergent. The researchers correlated each factors with one another.

Results

Internal Consistency

Table 1
Table summary of the computed Cronbach's Alpha for the eight subscales and the overall construct

Factors/Construct	Cronbach's Alpha
Overall Cronbach's Alpha	0.94
Goal-setting (GS)	0.77
Powerful strategies (PS)	0.74
Self-monitoring (SM)	0.76
Restructuring context (RS)	0.74
Time management (TM)	0.86
Self-evaluation (EM)	0.71
Attribution of causation to results (AC)	0.69
Adapting future methods (FM)	0.84

Table 1 shows the summary of results for the computed Cronbach's Alpha. The researchers computed for the Cronbach's Alpha of the overall scale to check the internal consistency of all the responses to all the items. This particular computation resulted in a value of 0.94 which indicates that there is high internal consistency among the responses for the whole scale. We also solved for the Cronbach's Alpha of each of the subscales to see if the responses for ever manifest variable are also internally consistent. For the first factor which is goal-setting (GS), the researchers got a value 0.77 which signifies that responses for the first manifest variable are acceptably consistent. The succeeding variables namely powerful strategies (PS), self-monitoring (SM), restructuring context (RS), and self-revaluation (EM) also resulted in similar values of Cronbach's Alpha. PS, SM, RS, and EM garnered values of 0.74, 0.76, 0.74, and 0.71 respectively. These findings reveal that the responses for each of these sub-factors are also internally consistent. The manifest variables' time management (TM) and adapting future methods (FM) got high values of Cronbach's Alpha, resulting in computations of 0.86 and 0.84 respectively. This suggests that the internal consistency of the responses for these two factors is high. The lowest Cronbach's Alpha computation among the factors

was achieved from attribution of causation to results (AC) which only resulted in 0.69. Although this implies that there is internal consistency amongst the responses for this factor, it is not as highly consistent as the other factors.

Construct Validity

Table 2
Correlations amongst all the Factors of Self-regulation in Writing

		1	2	3	4	5	6	7	8
(1)	Goal setting	-							
(2)	Adopting powerful strategies	.47*	-						
(3)	Self-monitoring	.33*	.29*	-					
(4)	Restructuring social and physical context	.26*	.30*	.44*	-				
(5)	Time management	.40*	.36*	.44*	.51*	-			
(6)	Self-evaluation	.53*	.41*	.41*	.37*	.44*	-		
(7)	Attributing causation to results	.24*	.24*	.34*	.34*	.42*	.50*	-	
(8)	Adapting future methods	.39*	.38*	.40*	.50*	.50*	.50*	.51*	-

*$p<0.05$

Table 2 signifies that all of the eight hypothesized factors for self-regulation correlate with each other. The computed correlation resulted in positive and significant values which reveal that there is convergence among all the hypothesized factors. Also, it represents that as each of the factor increases, all the other factors it was correlated with also increases. It also indicates a high validity for the perceived manifest variables of self-regulation in writing. The constructs are intercorrelated as identified in the theory used by the researchers.

Factor Analysis

Figure 1
Model 1 for self-regulation in writing (Eight Factor model)

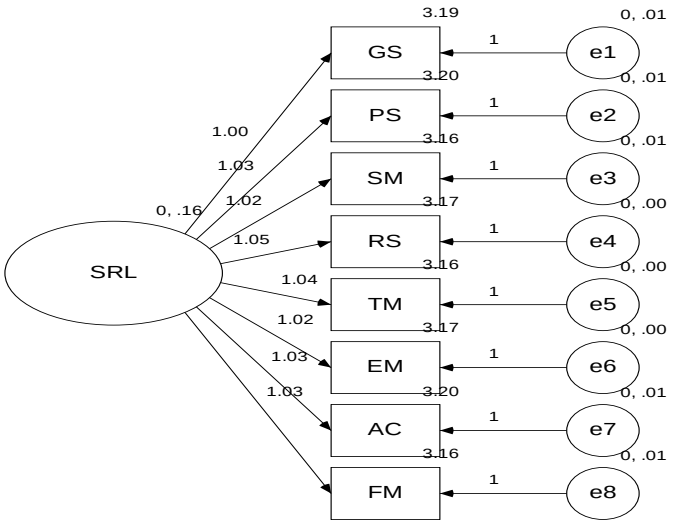
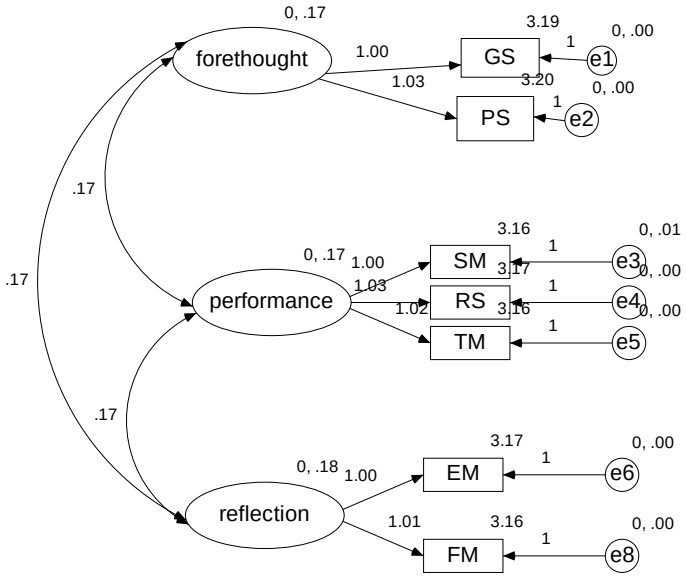


Figure 2
Model 2 for self-regulation in writing (Three factor model)



Note
GS- Setting proximal goals for oneself
PS- Adopting powerful strategies for attaining the goals
SM- Monitoring one's performance selectively fir signs of progress
RS- Restructuring one's physical and social context to make it compatible to one's goals
TM- Managing one's time efficiently
EM- Evaluating one's method
AC- Attributing causation to results
FM- Adapting future methods

Table 2
Basic Summary Statistics for Model 2 (Three-factor model)

			Path Estimate	SE	CR	P
forethought	<-->	performance	0.17	0.02	9.86	***
reflection	<-->	performance	0.17	0.02	9.94	***
reflection	<-->	forethought	0.17	0.02	9.92	***
			Path Estimate	SE	CR	P
Goal-Setting (GS)			3.20	0.03	110.548	***
Adopting powerful strategies (PS)			3.20	0.03	108.156	***
Self-Monitoring (SM)			3.16	0.03	106.044	***
Restructuring physical and social context (RC)			3.17	0.03	105.755	***
Time Management (TM)			3.16	0.03	106.887	***
Self-Evaluation (EM)			3.17	0.03	108.674	***
Adopting future methods (FM)			3.17	0.03	106.718	***

The results in the factor analysis using the Confirmatory Factor Analysis revealed that Model 2 is a better model than Model 1. This indicates that self-regulation is better concretized if it is divided into its three-stage cycle namely: (1) forethought phase, (2) performance phase and, (3) reflection phase. Also, in the second model, one of the eight factors which is the attribution of causation to results was removed because it contributed unconstructively to the goodness of fit measures of the first model as discussed in the succeeding sections. These three factors resulted in parameter estimates of 0.168, 0.172, and 0.166 respectively, and are all considered significant. Its original eight sub-factors also resulted in significant parameter estimates. Goal-setting (GS) loads to self-regulation by 3.195, adopting powerful strategies (PS) by 3.199, self-monitoring (SM) by 3.164, restructuring context (RS) by 3.165, time management (TM) by 3.158, self-evaluation (EM) by 3.165, and adopting future methods (FM) by 3.165. Figure 4 also reveals that 2.9 % of the time, GS and EM each contributes to self-regulation that is not shared by other factors, and 3.0 % of the time, PS, SM, RS, TM, and FM each contributes to self-regulation that is not shared by other factors. From the results, it can be presumed that self-regulation is best measured using the three-stage cycle, having seven (7) more underlying factors.

Table 3
Goodness of Fit Indices for Model 1

	NFI	RFI	IFI	TLI	CFI
Default Model	.80	.64	.80	.80	.80
Saturated Model	1.00		1.00		
Independence Model	.00	.00	.00	.00	.00

Table 3 reveals the summary of the goodness of fit indices for the first proposed model for self-regulation in writing. The researchers chose the baseline model comparison to contrast this model to another parallel measurement model. For the NFI an adequate fit is above .8 or .9. The NFI or the Bentler-Bonett normed fit index for this model is .739 which is unacceptable. The RFI or the Relative Fit Index for this model is .639. In estimations, the RFI manipulates the Bentler-Bonett normed fit index by dividing discrepancy values by the hypothesized or baseline models. A coefficient that is bordering to 1 is considered desirable or has a good fit. In the model, the RFI is .639 which indicates that the fit is undesirable. On the other hand, the IFI or the incremental fit index garnered for the model is .802. The IFI can range above 1.0 but the acceptable fit is judged to be close to 1.0 and above .90. An RFI of .802 signifies that the fit is unacceptable also. The TLI or the Tucker-Lewis index minimizes the influence of sample size on the obtained values and adjust the NFI by the complexity of the model. The value of the TLI is not limited to a 0 to 1 range but values close to 1 are considered as an acceptable or a good fit. For this model, the TLI is .634 which in turn suggests that the model has a deficient fit. Last is the CFI or the comparative fit index which indicates the percentage to which the data covariance can be reproduced by the hypothesized model. The acceptable value for the comparative fit index which indicates that the model is reliable is .90. The CFI for this model is .801 which also indicates the model has a poor fit. Due to the acquired values for goodness of fit for model 1, it can be considered that the model indeed has a bad fit. For this reason, the researchers proposed another model for self-regulation in writing which can be seen on Figure 3.

Table 4. Goodness of fit indices for Model 2

	NFI	RFI	IFI	TLI	CFI
Default Model	.89	.71	.89	.71	.89
Saturated Model	1.00		1.00		
Independence Model	.00	.00	.00	.00	.00

Table 4 signifies that the second model shows a better fit if not optimal as compared to the first model of self-regulation in writing. The researchers attempted to remove one factor which is AC (Attributing causation to results) because in the previous model it yielded the lowest factor loading. The NFI for model 2 is .886 as

compared to the first model's NFI which is .799. The NFI for this model has increased by .067. The RFI indicated in this model is .710 which is better when weighted against model 1's RFI which is .639. There is a .071 augmentation to this goodness of fit index. Next is the IFI which is .888 for model 2, judge against the IFI value for model 1 which is .802; there is a .052 improvement. The TLI, alternatively, for this model is .713 as compared to the TLI of the first model which is .643; there is an increment of .07. Last, the CFI value for this model is .887 in disparity with model 1 which is .801; there is a .086 growth in this goodness of fit. As we can see from the two models, the second model has an overall greater goodness of fit. Still, the goodness of fit values for model 2 is not optimal as the researchers expected. The researchers recognized that there is a need to place the remaining subscales under the three self-regulation cycle. In this manner, the eight factors of self-regulation are better concretized as compared to placing the eight factors under one latent variable.

Discussion

Initially, Zimmerman (2002) proposed 8 factors for self-regulated learning in a general context. For the writing milieu, it can be derived that only seven out of the eight factors highly measures self-regulation. There is a strong possibility that attributing causation to results in writing does not entail self-regulation in writing. In a similar case, Zimmerman and Pons (1986) concluded that one of supposed factors of self-regulation which is self-evaluation did not relate to student achievement in their study but the researchers firmly believed that it is and important self-regulating strategy.

The first model of self-regulation did not fit in the context of writing because the factors were not grouped accordingly. According to the self-regulation theory by Zimmerman (2002), there are three main phase of self-regulation namely the forethought phase, performance phase and the reflection phase. Without this assemblage of the factors, there will be inconsistencies regarding what each factor is trying to measure.

In conclusion, the researchers establish a foundation that the factors of self-regulation should be placed in the three phases of self-regulation respectively. Moreover, the AC (attributing causation to result) factor is not a significant contributor of self-regulation based on the analysis. The first model inadequately measured self-regulation of writing but the second model showed that modifications in the model can result to better measurement of self-regulation The internal consistency the overall items is high and internal consistency of each factor is acceptable. This suggests that the items are internally consistent, reliable and homogenous.

In the succeeding studies on self-regulation, there should be a larger number of participants to make the study more definitive. Currently, the number of participant in this study is 207; the following studies should make it at least 300 participants or more to make the data well-established. Also, other researchers should construct other self-regulation scales in the other language macro skills like speaking, listening and reading in order to find a definitive link for self-regulation and language learning.

References

Hamman, L. (2005).Self-regulation in academic writing tasks.*International Journal of Teaching and Learning in Higher Education*, *17(1)*, 15-26.

Plata, S. M. (2008). Exploring students' self-assessment following the Three-Stage Model of Self-refgulatory prompts in Freshman Composition. *Learning Edge, 4*, 3-52.

Singer, B. D., & Bashir, A.S. (1999). What are executive functions and self-regulation and what do they have to do with language-learning disorders? *Language, Speech, and having services in schools*, *30*, 265-273.

Zimmerman, B. J., & Bandura, A. (1994). Impact of Self-Regulatory Influences on Writing Course Attainment. *Educational Research Journal , 31 (4),* 845-862.

Zimmerman, B. J., & Pons, M. M. (1986). Development of a Structured Interview for Assessing Student Use of Self-Regulated Learning. *American Educational Research Journal , 23* (4), 614-628.

Zimmerman, B. J., & Kitsantas, A. (1999). Acquiring writing revision skill: Shifting from process to outcome self-regulatory goals. *Journal of Educational Psychology*, *91*, 241-250.

Zimmerman, B. J., & Kitsantas, A. (2002). Acquiring writing revision and self-regulatory skill through observation and emulation. *Journal of Educational Psychology*, *94*, 660-668.

Appendix
Self-regulation Scale in Writing

Setting specific proximal goals for oneself – this segment of self-regulatiodeals with the formulation of objectives that will be achieved for a specific task.

1. Before I write, I set my mind that I would finish my written output.
2. I set standards for my writing.
3. I create certain goals for every writing task I need to accomplish.
4. I plan the contents of the things that I would write.
5. I make my own guidelines for my written output.
6. I take note of my purpose in a specific writing task.
7. I think of my target audience and reason for writing a certain piece.
8. I drive myself to be resourceful in my writing.
9. I set a specific time in which I would write.
10. I always intend to make my written outputs of high quality.
11. I visualize my written output first before engaging in it.
12. I have a certain length in mind for the paper that I will work on.
13. I aim to create a paper with no grammatical errors.
14. I aspire to create a paper that will satisfy the readers.
15. I seek to compose a paper that uses comprehensible vocabulary.

Adopting powerful strategies for attaining the goals- This phase of self-regulation entails that the individual utilizes appropriate strategies for a task in which the objectives will be achieved.

1. I brainstorm for ideas before I write.
2. I use graphic organizers to manage my ideas.
3. I use the free-writing strategy to garner several thoughts.
4. I create an outline before I write.
5. I create a draft before writing the final paper.
6. I modify my paper if I'm not contented with it.
7. I use certain writing strategies such as annotating, outlining, etc. whenever doing a writing task.
8. I proofread my work.
9. I ask my peers to edit my writing.
10. I ask professionals to evaluate my writing and give suggested revision
11. I use word processing software to check errors in my writing.
12. I reread my work several times to find some errors in my writing.
13. I check my work on the general level then to the sentence level.
14. I know and use the writing approach of planning, organizing, writing, editing and revising.
15. I take into consideration the comments of other people about my writing.

Monitoring one's performance selectively for signs of progress- self-monitoring is one of the phases in the self-regulation cycle. It refers to the ability of the students to keep track of their progress in the task they are doing.

1. Before I write, I set my mind that I would finish my written output.
2. I set standards for my writing.
3. I create certain goals for every writing task I need to accomplish.
4. I plan the contents of the things that I would write.
5. I make my own guidelines for my written output.
6. I take note of my purpose in a specific writing task.
7. I think of my target audience and reason for writing a certain piece.
8. I drive myself to be resourceful in my writing.
9. I set a specific time in which I would write.
10. I always intend to make my written outputs of high quality.
11. I visualize my written output first before engaging in it.
12. I have a certain length in mind for the paper that I will work on.
13. I aim to create a paper with no grammatical errors.
14. I aspire to create a paper that will satisfy the readers.
15. I seek to compose a paper that uses comprehensible vocabulary.

Restructuring one's physical and social context to make it compatible to one's goal- Among the key types of self-control methods that have been studied to date are the use of imagery, self-instruction, attention focusing, and task strategies

1. I avoid watching television when I am finishing a writing task.
2. I avoid using my cell phone whenever I am writing a composition.
3. I usually finish my writing tasks late at night.
4. I isolate myself in quiet places whenever I do my writing tasks.
5. I can write efficiently when I am working in a clean and quiet environment
6. I am able to finish a writing task when I am listening to music.
7. I like talking with my friends while doing a writing task.
8. I prefer having people or friends around when I write so that I can gather more ideas from them.
9. I don't let others disturb me when I am writing.
10. I like finishing my compositions early in the morning.
11. I accomplish all my writing tasks at my own pace.
12. I see to it that my things are fixed before I begin with writing.
13. I usually do my writing tasks in a quiet place where there isn't much noise.
14. I like to multi-task whenever I write.
15. I don't like writing in a crowded place.

Managing one's time efficiently- self-regulated learners usually use several strategies so that they fit all their pending tasks to their availability.

1. I create a time table of the writing outputs I need to accomplish.
2. I keep a separate planner for all my writing tasks.
3. I use post-its to keep track of the writing tasks I need to accomplish
4. I immediately accomplish the writing tasks I need to accomplish during my free time.
5. I finish all my compositions weeks before its deadline.
6. I keep a calendar where all the deadlines of my writing outputs are written.
7. I create a checklist of all the writing tasks I need to finish.
8. I see to it that I finish my writing tasks before their deadline.
9. I keep a notebook where I list a schedule of my daily writing activities.
10. I gradually finish my writing tasks whenever I have nothing to do.
11. I immediately start with the writing task as soon as the teacher gives it.
12. I accomplish all my writing tasks before doing unnecessary things.
13. I set an alarm for every writing task I have scheduled.
14. I allot a specific time for every writing task.
15. I use daily logs to track the writing tasks I have already accomplished.

Evaluating one's method- refers to comparisons of self-observed performances against some standard, such as one's prior performance, another person's performance, or an absolute standard of performance

1. If the drafts of my outputs are not getting good marks, I ask an English teacher for help.
2. I make necessary revisions in my compositions whenever the teacher suggests me to.
3. I edit errors in my compositions before I submit them to the teacher.
4. I like proof-reading activities in class.
5. I enjoy writing workshops because I am given ideas for points for improvements.
6. I take down the comments of everyone who reads my writing outputs.
7. I browse through my drafts to check the progress of my writing.
8. I am open to feedbacks which can help improve my compositions.
9. I cross check if my writing output matches the outline I created.
10. I ask others what changes should be done in my composition for further improvements.
11. I evaluate my written outputs after every session.
12. I take note of the improvements in my written outputs.
13. I benefit from peer-editing activities.
14. I create my own rubric to check my own written output.
15. I make a list of the things I need to improve on in my written outputs.

Attributing causation to results- refers to beliefs about the cause of one's errors or successes

1. I believe that my success or failures lie in my lack of effort to do a writing task.
2. I ask myself what went wrong when I receive a low grade in a certain writing task.
3. I raise certain questions which I believe were the sources of my success.
4. My compositions are excellent because I know I can do well.
5. I attribute my success in my writing task due to my fondness of reading.
6. I credit my teacher for teaching my how to write suitably.
7. I attach my failure to my own personal limitation.
8. I blame someone or something if I did not reach the deadline of my writing task.
9. I hold myself accountable for the success of my writing.
10. My success in the writing task is due to the help of my peers.

Adapting future methods- This phase of self regulation bring about the use of potential techniques that can be used to enhance output.

1. When I receive a low mark on a certain writing activity, I will plan my next activity in a more detailed manner.
2. I read more so that I have a wide range of knowledge for the next writing task.
3. I take note of the comments of the writing instructor and make sure that I apply it in the next writing activity.
4. I read my work carefully and seek where I committed an error.

5. I ask my teacher for possible improvements I can make in my written outputs.
6. I compile my work so that I can see the progress and development of my writing.
7. I ask someone to tutor me for the next writing task.
8. I eliminate distractions that might have interfered with my writing.
9. I experiment with writing strategies to see what suits me best.
10. I make sure that my writing appeals to the one who'll read it.
11. I'll extensively familiarize myself with the next topic I will write about.
12. I'll use thesaurus to enrich my writing and vocabulary in the next writing activity.
13. I will ponder intently for my next writing task.
14. I'll read aloud what I have written so that I can check what sounds good and what doesn't.
15. I will ensure that the audience of my next writing task will be interested in my composition.

Physical and Topical Structure Analysis of Professional Writing in Inner, Outer, and Expanding Circles of English

TESOL Journal
Vol. 1, pp. 95-118

http://www.tesol-journal.com

Shirley Dita
De La Salle University, Manila, Philippines

Abstract

There had been a growing interest in the differences of the three concentric circles of English over the years. The current study aims to contribute to genre-specific studies by dealing with the letters to the editor of an international magazine. Following Lautamatti (1987) and Simpson (2000), 39 one-paragraph letters from the Inner, Outer, and Expanding circles of English were investigated as to their physical and topical structure features. In the concluding section, some implications to ESL teaching are outlined.

Introduction

For almost four decades now, the study of textual differences between and among languages termed Contrastive Rhetoric (henceforth, CR) has become an interesting field of inquiry. The rather immature article of Kaplan in 1966, popularly known now as "Doodles," has clearly gone a long way. Although Kaplan (1987) admits having made too strong a claim, he never regrets having made the case. The expansion of focus of study from student expository writing to academic to professional writing is remarkably increasing.

In her overview of text linguistics studies in CR, Connor (1996) points out, "One of the biggest changes in CR research is the diversification of genres that has been studied" (p. 99) yet she believes that the existing literature on this field is not yet enough. She, thus, argues that more studies be conducted in this area, as she puts, "Despite the enhanced research activity on genre-specific writing cross-culturally, only a few isolated studies have examined each genre" (p. 149). Swales (1990) confirms that one of the important approaches to CR is genre analysis. This study aims to fill this apparent gap within the area of professional writing and to contribute to the growing number of genre-specific studies.

Among the recent studies in professional writing include Thatcher's (2000) investigation of L2 professional writing in a US and South American context, and Scollon's (2000) study on the generic variability of texts in a Chinese newspaper and its English counterpart.

In the Philippine context, genre-specific studies have been explored by Gonzales (2002), which focused on the use of politeness in letters to the editor in Philippine English, American English, and Singaporean English; Gustilo (2002) likewise analyzed the news leads of American and Philippine English; Genuino (2002) examined the cohesion markers in commentary articles of the Philippine,

Singaporean, and American newspapers; and Rojo-Laurilla (2002) probed on the 'presentation of self' and 'self-disclosure' in Philippine advice columns.

Likewise, several studies have explained the cultural differences in writing of native speakers of English as opposed to nonnative speakers. B. Kachru (1985, in Y. Kachru, 1995) divides the English-using world into three concentric circles: The *Inner Circle* consists of the native English-speaking countries, e.g. Australia, Canada, New Zealand, the U.K. and the U.S.A.; 2) The *Outer Circle* comprises the former British and American colonies, e.g. India, Kenya, Nigeria, the Philippines, Singapore, among others; 3) The *Expanding Circle* consists of countries where English is fast becoming a dominant second language in the domains of education, science, and technology, e.g. China, Japan, Taiwan, Thailand, among others.

Various researchers espouse that there is a perceived norm of writing in the English-speaking community which is generally characterized as linear, direct, or explicit. However, Connor and Lauer (1988) claim that there are systematic differences among students writing in English from the U.S., Britain, and New Zealand which constitute the Inner Circle.

On the other hand, the major claim of the CR hypothesis is that writers from other cultures [outer and expanding circles] employ a rhetoric and a sequence of thought which violate the expectations of the native [inner circle] reader (Kaplan, in Kachru, 1995).

Kaplan (1966, as cited by Connor, 1996) argued that Chinese as well as other "Oriental" writing is indirect. Cai (1993, as cited by Connor, 1996) describes that the Chinese writing is greatly influenced by the classic eight-legged pattern and is now evolving to the four-part model called *qi-cheng-jun-he.* Moreover, Chinese rhetoric tends to "suggest" or be indirect and uses quotations and allusions very often. Likewise, Hinds (1983) reports that the common organizational framework of the Japanese is the *ki-shoo-ten-ketsu* where *ki* begins the argument, *shoo* develops the argument, *ten* is the intrusion of an element which is not directly connected to the theme of the composition, and *ketsu* concludes the argument. Likewise, Eggington's (1987) study of the Korean written academic discourse suggests that Koreans prefer a rhetorical structure called *ki-sung-chon-kyul* which is very similar with the Japanese *ki-shoo-ten-ketsu* and the Chinese *qi-cheng-jun-he* styles. While Kachru (1997, p. 56) claims that "Indian writing, like its Chinese and Japanese counterparts, has been characterized as non-linear, circular, spiral, etc. ". Also, Indian English manifests stylistic features that re-create the Sanskritic noetics (Kachru, 1999)

Ostler (1987) reports that Arabic writing relies heavily on the use of coordination thus producing parallel construction while Mohamed and Omer (2000) list a number of contrasts between English and Arabic culture and cohesion. As emerged in the study, Arabic cohesion is generally context-based, generalized, repletion-oriented, and additive in nature while English is text-based, specified, change-oriented, and non-additive. With regard the cultural dimensions, Arabic is characterized as oralised, collectivist, high-contact, high context and reader-responsible as opposed to literate, individualist, low contact, low context, and writer-responsible English.

To date, there is no single study that attempts to draw the distinctions of the three concentric circles of English as identified by Kachru (cited in Kachru, 1997). The current study is an ambitious attempt to fill this gap in the research arena.

The present study dwells on professional writing, specifically, letters to the editor. Gonzales (2002) opines that letters to the editor are a good venue to express one's personal stand of an issue or bring this issue into the attention of concerned citizens or institutions.

There are various limitations of the study though that need to be mentioned. First, the corpus of the study was generally taken from an international magazine; hence, the senders [of letters] come from all points of the world. This means that there is no possible single topic where the three concentric groups of English have reacted to all at the same time. Second, with that limitation, the scope of the letters are varied, from general interests to specific issues. Third, the only basis of identification of the writers is the country where they presently stay during the time of writing. Whether they are a native of the country they represent is beyond my control. Finally, the amount of intervention by the editorial staff of the magazine is not identified either.

The focus of this research is two-pronged. The first part of the analysis in the present study is a quantitative description of the physical characteristics of the 39 paragraphs. The second analysis focuses on the internal coherence of the text by using Lautamatii's (1987) topical structure analysis.

With these, the following research questions are posed:

1. What are the physical characteristics of the letters among the inner, outer, and expanding circles of English?
2. What topical progressions are adapted by these three groups?
3. What are the pedagogical implications of the physical and topical structure analyses to second language writing and teaching?

Method

The Corpus

Thirteen letters, which are all one-paragraph, for each circle (39 in all) were taken from the "Letters" section of the TIME Asia. Given the nature of letters to the editor in an international magazine such as TIME, sources of letters come from all points of the world. Hence, it was difficult to choose a particular topic where the three groups of English are represented. Noteworthy of mentioning, too, is the limited samples of the Expanding circle in the 'letters' section of the magazine. For the span of six months, only thirteen samples came from the Expanding circle. Due to this scarcity, it was inevitable to purposely choose sample texts for the study. As expected, most of the letters came from the Inner circle. To address possible problems of incomparability, a total number of thirteen samples for each group was taken. In addition, all letters consisted of just one paragraph. As Simpson (2000) did in her study to avoid potential diachronic changes in the language, all letters came from the second half, July-December, of 2004.

Table 1
Distribution of Samples

Inner Circle		Outer Circle		Expanding Circle	
Country	paragraphs	Country	paragraphs	Country	paragraphs
USA	4	India	3	China	1
UK	3	Nigeria	3	Japan	5
Canada	3	Philippines	2	Taiwan	3
Australia	2	Singapore	2	Korea	2
New Zealand	1	Malaysia	1	Slovakia	1
		Hong Kong	1	Cambodia	1
		Pakistan	1		
TOTAL	13		13		13

Methods of Analysis

Physical Analysis

A simple count on the number of words, number of clauses, number of sentences, number of words per sentence, number of clauses per sentence, and number of sentences per paragraph was done. This is to establish differences on the face value of the data.

Clause, as Simpson (2000) adapts in her study, is a unit of thought consisting a subject and a predicate which could be independent or dependent. Some clauses are also modifiers such as noun, adjectival, or adverbial. Sentence, on the other hand, represents one unit of thought. It may consist of single clause or series of clauses, as the case may be.

For the purposes of this study, all types of clauses are identified in the physical analysis but only independent and dependent clauses are included in the topical structure analysis.

Topical Structure Analysis

To describe coherence in texts, Lautamatii (1987) developed topical structure analysis which can be traced back to Prague School of Linguistic's theory of *theme-rheme* or *topic-comment*. This framework inspects the semantic

relationships between sentence topics and overall discourse topics by looking at the repetitions, shifts, and reoccurrences of topics. Through topical structure analysis, these relationships illustrate how topics in the sentences work through the text to build meaning progressively. Or in Connor and Farmer's (1990) words, TSA considers the global and local coherence of texts" (p.127).

Pertinent to the identification of the thematic progression is the three basic sentence elements which Lautamatii (1987) explains in her study. She identifies the initial sentence element (ISE), which is what comes first in the sentence. This may be the subject of the sentence or any introductory phrase. The second element is the mood subject, or the grammatical subject of the sentence. The third element is the topical subject (henceforth, TS) which is the topic of the sentence or what is being talked about in the clause. This is not necessarily the grammatical subject of the sentence. For the purposes of the study, only the topical subject is identified in each sentence. It should be noted that one inter-rater was asked to identify the topical subjects of the sentences. He is knowledgeable of Lautamatii's concept of sentence elements and TSA and even intends to use the same framework in his forthcoming study. The difference in the results of the topic identification is not statistically significant. In the sample text below, the topical subjects are boldfaced.

Lautamatii identifies three possible types of progression of sentences: parallel, sequential, and extended parallel progression. Simpson (2000) introduces another probable type of progression which she calls 'extended sequential progression.' Connor (1996) shows that coherence can be mapped using a system of three distinct types of progression; Hoenisch (1996; 2004) codifies the progression using letters:

1. **parallel progression**, In which topics of successive sentences are the same, producing a repetition of topic that reinforces the idea for the reader (<**a**, b>, <**a**, c>, <**a**, d>);
2. **sequential progression,** In which topics of successive sentences are always different, as the comment of one sentence becomes, or is used to derive, the topic of the next (<a, **b**>, <**b**, **c**>, <**c**, d>);
3. **extended parallel progression**, In which the first and the last topics of a piece of text are the same but are interrupted with some sequential progression (<**a**, b>, <b, c>, <**a**, d>).
4. **extended sequential progression**, In which the comment of one clause becomes the topic of a non-consecutive clause; hence, <a, **b**>, <a, c>, <c, d>, <**b**, e>.

For the purposes of exemplification, authentic texts are taken from the corpus to illustrate further the concept of topical progression. The underlined words or phrases show the progression. It must be noted that the semantic relationships of ideas is taken into account here.

Parallel progression:

[1] *Bush's aggressive, unilateralist foreign policy and blinkered support for Israel have made him hated throughout the Middle East. His presidency has provided plenty of recruitment material for al-Qaeda.* [1A-Inner]

[2] *In Hong Kong, the lack of democratic legitimacy is crippling the chief executive, and the same cycle is inevitable in China.* [7A-Outer]

Sequential Progression:

[3] *Voters were called on to recognize fundamental differences between the candidates. The issues of character and values may have given the edge to Bush.* [6A-Expanding]

[4] *the hard-liners in Tehran are waging war against the U.S. in key spots worldwide. The U.S. and other Western governments should not negotiate with the mullahs.*[2B-Inner]

Extended Parallel Progression:

[5] *The Iraqi police and defense forces should want peace and freedom in their country enough to fight for it. The U.S. should stop sacrificing its soldiers for a cause that Iraqis are not willing to fight for themselves.* [2B-Outer]

[6] *Any successful war on terrorism must start, however, with finding a peaceful solution to the Israeli-Palestinian conflict, which is at the epicenter of the wider war. Because of the consequences of America's biased support of Israel, the U.S. faces strong and increasing anti-American sentiment among Muslims. The U.S. needs to change the perception that the war on terrorism is a war on Islam.* [3A-Expanding]

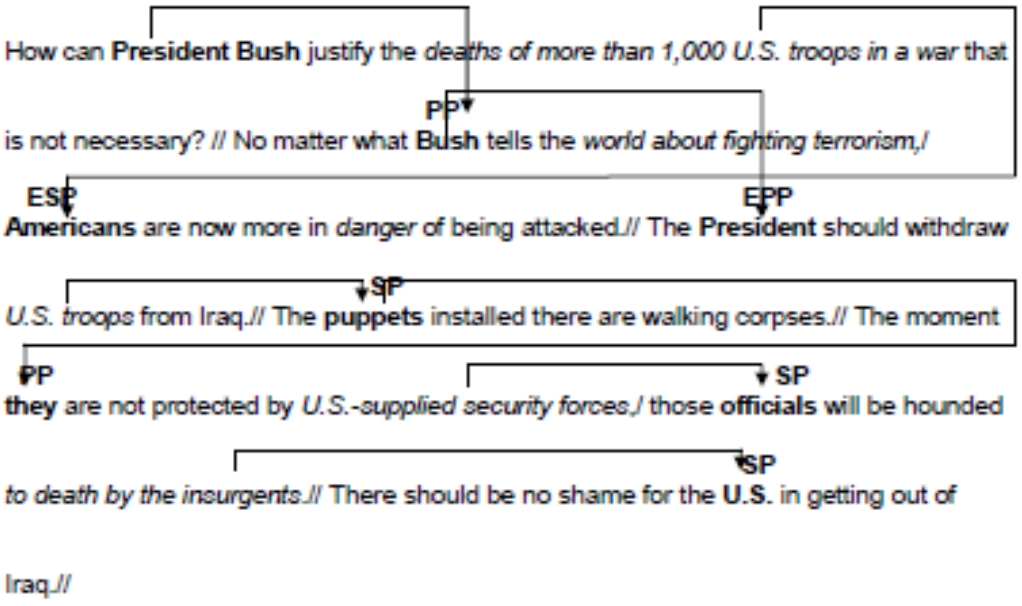
Extended Sequential Progression:

[7] *it was Japan that taught China how to make technological advances. So now the two countries are even. Why should the Chinese hesitate to make a fresh start alongside the Japanese?* [2A-Expanding]

[8] *I have lived in Singapore my entire life, and I am sometimes appalled by and ashamed of the actions of fellow drivers. Singapore has its share of aggressive, me-first motorists* [1B-Outer]

Moreover, the following sample text was taken from the corpus to illustrate the four types of thematic progression, originally identified by Lautamatii and supplemented by Simpson, which are utilized in the analysis of the coherence of the texts. Unlike Simpson (2000), both independent and dependent clauses were identified. Two slanting bars are used to separate sentences and a single slanting bar is used to separate clauses. For purposes of clarity, the *themes* are boldfaced while the *rhemes* are italicized. Arrows are used to trace or to point the development of topics. Above the boldfaced topical subjects are the types of

progressions used; PP for parallel progressions, SP for sequential progressions, EPP for extended parallel progressions, and ESP for extended sequential progressions.



The first sentence is always used as the basis of comparison. The second clause is an example of dependent clause whose topical subject, *Bush*, is a parallel progression from the original sentence's topical subject, *President Bush*.
Americans is an example of extended sequential progression because it is drawn from the *rheme* of the first sentence and a semantic equivalent of the *US.* It is an ESP because a PP has intervened between the *rheme* of the first sentence and the *theme* of the third clause. *President* is an extended parallel progression as it refers back to *Bush* in the second clause. *Puppets* is a sequential progression which is derived from the *rheme* element, *U.S. troops*. *They* refers to the *puppets*; hence a parallel progression. *Officials* and *U.S.* are examples of sequential progressions since they are taken from the *rheme* of the preceding clauses.

In the sample text above, the need to include both independent and dependent clauses became apparent since the topical subject of the independent clause is taken from the *rheme* of the dependent clause. Unlike Simpson (2000) who limited her analysis to independent clauses, I am including dependent clauses in the current study as it is deemed necessary.

The following example illustrates that the topical subject of the independent clause is drawn from the *rheme* element of the dependent clause.

[9] *The moment they are not protected by the US-supplied security forces, those officials will be haunted to death by the insurgents.*

Connor and Farmer (1990) demonstrate how topical structure analysis can be used as a revision strategy in process writing. Although it has been conceived that topical structure analysis is only applicable to English texts only (Lautamatii,

1987), Simpson (2000) used this framework in investigating the coherence of academic texts written in English and Spanish.

Results and Discussion

Physical Analysis

The physical analysis of the paragraphs shows some predictable and unpredictable differences of the three groups of English (based on results of previous studies). As can be seen in Table 2, of the three groups, the Inner circle got the highest total number of words which is 1,399. This is in congruence with Hinkel's (2003) findings that the native speakers have richer lexical repertoire. However, the data show that in contrary to the total number of words, the pattern for the total number of sentences is the total opposite. Apparently, the more the sentences, the lesser the words; or the other way around. The expanding circle has 75 sentences in all but has 1,215 words only. This is in contrary to Hinkel's (2003) findings that native speakers use more syntactic varieties over non-native speakers. It can be deduced from the data that the Inner circle utilizes more words than sentences. On the other hand, the Outer and the Expanding circles tend to use lesser words but more sentences.

Table 2
General Data

	Inner Circle	Outer Circle	Expanding Circle
Total number of words	1,399	1,270	1,215
Average words per paragraph	107.6	97.7	93.5
Total number of sentences	66	69	75
Average sentence per paragraph	5.07	5.3	5.76
Average words per sentence	21.19	18.4	16.2

The clause data suggest something else. It appears that the Outer circle utilizes the least number of clauses, but the Expanding circle uses clause the most. This does not mean though that the Expanding circle uses syntactic complication more than the Outer or the Inner circles.

In the initial analysis of the corpus, the inter-rater and I felt the need to label all clauses, may they be noun, adjectival, or adverbial clauses. In the TSA however, only the independent and dependent clauses were taken into account. Surprisingly,

the Expanding circle has the highest number of clauses. This may debunk prior findings that non-native speakers utilize syntactic simplicity.

Table 3
Clause Data

	Inner Circle	Outer Circle	Expanding Circle
Total number of clauses	109	101	117
Average clauses per paragraph	8.38	7.76	9
Average clause per sentence	1.65	1.46	1.56
Average words per clause	12.83	12.57	10.38

In summary, based on the subjects of the study, there are two important generalizations that can be drawn. First, the total number of words in the Inner circle is much greater than the Outer and the Expanding circles. This finding coincides with Simpson's (2000) in her comparison of English and Spanish academic texts. Second, the total number of sentences and the total number of clauses in the Expanding circle is much greater than the two other circles. This is quite unpredictable based on the figures on the number of words. It should be made clear though that these generalizations hold true to the samples of the current study.

Topical Structure Analysis

Table 4 summarizes the topical development in the 13 Inner circle paragraphs. As can be seen, all of the paragraphs manifest some kind of topical recurrence. Of the 109 clauses, only six new topics surfaced. This suggests a stronger degree of coherence since there are fewer inclusion of items not derived from previous topics. This is in contrary to Simpson's (2000) earlier findings on English academic paragraphs where she summed up 113 new topics out of 154 independent clauses. The interpretation of such figures, however, was not elaborated by Simpson as to the existence of new topics. Notably, the most common type of topical development is parallel progression which explains that thematic development is usually done through repletion of key words. While the least common of progression is ESP which suggests that there is very slim chances of drawing themes from previously mentioned *rhemes*. This somehow matches Simpson's findings.

Table 4
Summary of Topical Development in the Inner Circle

ID Number	Clauses	New Topics	PP	SP	EPP	ESP
1A	8	1	5	0	0	1
1B	4	0	2	1	0	0
1C	11	0	6	2	1	0
2A	4	0	1	1	1	0
2B	11	0	6	1	1	1
3A	3	0	2	0	0	0
4A	12	1	4	3	2	1
4B	13	2	3	3	1	0
4C	5	0	2	1	0	1
5A	12	1	3	2	3	0
5B	9	0	3	2	1	1
5C	9	0	4	0	1	1
5D	8	1	2	1	2	0
Total	**109**	**6**	**43**	**17**	**13**	**6**

In the Outer circle, there are more instances of new topics considering the lesser number of clauses compared with the Inner circle, as shown in Table 5. This may suggest probable intrusion of a topic not connected with the theme of the paragraph. Similar to the Inner circle, on the other hand, the most common type of topical development is still parallel progression. In addition, the instances of EPP and ESP are particularly higher in the Outer circle than in the Inner circle.

Table *5*
Summary of Topical Development in the Outer Circle

ID Number	Clauses	New Topics	PP	SP	EPP	ESP
1A	10	1	4	2	2	0
1B	11	0	6	1	1	1
2A	8	0	2	3	1	1
2B	6	0	0	1	4	0
2C	6	1	1	1	2	0
3A	3	0	2	0	0	0
3B	8	3	2	1	0	1
3C	7	0	2	1	1	2
4A	9	1	2	0	0	3
4B	5	1	2	1	0	0
5A	6	0	2	1	1	1
6A	12	1	4	2	1	0
7A	6	0	1	2	1	0
Total	**101**	**8**	**30**	**16**	**14**	**9**

Whereas, Table 6 displays the summary of the topical progression in the Expanding circle. Worth mentioning is the least number of instances for new topics. This may suggest some degree of coherence of the texts as opposed to previous assumptions or findings of earlier studies that the writing of the Expanding circle is less direct and incoherent (Y. Kachru, 1995). Moreover, this finding is also in contrast with prior assumptions that the writing of Chinese, Japanese, and Korean (e.g. Eggington, 1987; Hinds, 1983) is characterized by the intrusion of an element that is not related with the discourse topic of the paragraph. Just like the two other circles, parallel progression is also the most common type of topical development used in this group. Moreover, this group also got the highest number of extended sequential progression which may suggest that the Expanding circle tries to lend some sophistication in their paragraph as they take up a previous *rheme* to become the *theme* of the sentence.

Table 6
Summary of Topical Development in the Expanding Circle

ID Number	Clauses	New Topics	PP	SP	EPP	ESP
1A	9	1	2	2	1	1
2A	16	0	7	2	0	1
2B	5	0	2	2	0	0
2C	9	0	2	1	2	0
2D	8	1	4	0	0	0
2E	10	1	2	2	1	1
3A	9	0	2	1	4	0
4A	6	0	3	1	1	0
4B	7	0	2	1	0	2
4C	6	0	2	1	1	1
5A	6	1	1	1	0	2
5B	10	0	5	0	2	1
6A	16	0	5	4	0	2
Total	**117**	**4**	**37**	**18**	**12**	**11**

To sum up the topical structure of the three groups of English, Table 7 displays the comparison of figures. Of the three groups, the Inner circle displays the highest percentage of progression, 72.47%, which means that out of 109 clauses there are 79 instances of progression. Whereas, out of 101 clauses in the Outer circle, there are 71 cases of progression or 70.29% in all. The Expanding circle, on the other hand, incurs the lowest instances of progression. Of the 117 clauses, a total of 76 cases, or 64.95%, showed some degree of progression.

In global terms, the inner circle still manifests the highest degree of coherence in texts, followed by the Outer circle, then by the Expanding circle. This explains the level of exposure of these groups to the English language. The Outer circle, being former colonies of the two giants, the U.K. and the U.S., displays considerably high percentage of progression, hence coherence, as compared with the Expanding circle. The lowest degree of progression incurred by the Expanding circle can be equated with the attempt of this group to make English their second group. Hence, the data show 'struggling' instance of progression.

Table 7
Comparative Summary of Totals for TSA

	Inner Circle		Outer Circle		Expanding	
Circle	**N**	**%**	**N**	**%**	**N**	**%**
Clauses	109		101		117	
New Topics	6		8		4	
PP	43	54.4	30	42.25	37	48.68
SP	17	21.51	18	25.35	16	21.05
EPP	13	16.45	14	19.71	12	15.78
ESP	6	7.5	9	12.67	11	14.47
Total Progressions	**79**	**72.47**	**71**	**70.29**	**76**	**64.95**

Conclusion

It is important to point that the present study attempted to point out the differences, not of two or three languages, but of the global divisions of the English-speaking communities. As a consequence, the results and findings of the study can not be taken as generalization for the circles of English. With all the limitations previously mentioned, it can be deduced that the findings in this study can only hold true to the chosen subjects. Further, the findings in this study are supported by previous studies on the potential disparities between native and non-native speakers.

Although TSA was originally conceived to be applicable to English text alone, as noted in this study, this framework proved to be an effective means of identifying the degree of coherence among the texts written by non-English authors as well. As recommended by Simpson (2000), other academic fields and other types of writing be explored to test the workability of the framework.

Implications

The results of the physical analysis and the topical structure analysis suggest distinct differences of the three concentric circles of English. These findings may further strengthen previous assumptions on the rhetorical characteristics of the Outer and the Exapanding circles. In this light, ESL teachers should strive to improve some areas, as suggested in this study: first, the production of more words in the sentences, rather than more sentences with fewer words, among the Outer and Exapanding circles; second, the need to improve internal coherence of the

Outer and the Expanding circles; third, the need to encourage more use of the other types of progression which may increase sophistication of the texts. And most importantly, teachers should make writing letters to the editor a supplemental classroom activity to provide interesting venues of exposure. Also, letters to the editor are characterized as argumentative. The provision for more activities of this sort may not only enhance the writing skills of ESL students but also increase their interest to participate in activities outside the classroom.

References

Connor, U. (1996). *Contrastive Rhetoric: Cross-cultural aspects of second language writing.* Cambridge: Cambridge University Press.

Connor, U., & Farmer, M. (1990). The teaching of topical structure analysis as a revision strategy for ESL writers. In B. Kroll (Ed.), *Second language writing: Research insights for the classroom* (pp. 126-139). Cambridge: Cambridge University Press.

Connor, U. & Lauer, J. (1988). Cross-cultural variation in persuasive student writing. In A.C. Purves (Ed.), *Writing across languages and cultures: Issues in contrastive rhetoric* (pp. 138-159). Newbury Park, CA: Sage.

Eggington, W. (1987). Written academic discourse in Korean: Implications for effective communication. In U. Connor and R. Kaplan (Eds.), *Writing across languages: Analysis of L2 text* (pp. 153-168). Reading, MA: Addison-Wesley Publishing Co.

Genuino, C. (2002). Cohesion: A revelation of cultural practices. *Philippine Journal of Linguistics, 33(2),* 1-18.

Gonzales, S. (2002). Politeness in letters to the editor in Philippine English, Singaporean English, and American English. *Philippine Journal of English, 32 (2),* 19-37.

Gustilo, L. (2002). A contrastive rhetorical analysis of Philippine English and American English news leads. *Philippine Journal of Linguistics, 33(2),* 19-37.

Hinds, J. (1983). Contrastive rhetoric: Japanese and English. *Text, 3(2)*, 183-195.

Hinds, J. (1990). Inductive, Deductive, Quasi-inductive: Expository writing in Japanese, Korean, Chinese, and Thai. In U. Connor and A.M. Johns (Eds.), *Coherence in writing: Research and pedagogical perspectives* (pp. 87-109). Alexandria, VA: TESOL.

Hinkel, E. (2003). Simplicity without elegance: Features of sentences in L1 and L2 academic texts. *TESOL Quarterly, 37(2)*, 275-301.

Hoenisch, S. (2004). The theory and method of topical structure analysis. Retrieved 1 March 2005 from http://www.criticsm.com/

Kachru, Y. (1995). Contrastive rhetoric in World Englishes. *English Today, 11(1),* 21-31.

Kachru, Y. (1997). Culture and argumentative writing in world Englishes. In L. Smith and M. Foreman (Eds.), *World Englishes 2000 (Selected Essays), vol. 14* (pp. 48-67). Honolulu: Univesity of Hawaii and East-west Center.

Kachru, Y. (1999). Culture, context, and writing. In E. Hinkel (Ed.), *Culture in second language teaching and learning* (pp. 78-89). Cambridge: Cambridge University Press.

Kamimura, T. and Oi, K. (1998). Argumentative strategies in American and Japanese English. *World Englishes, 17(3)*, 307-323.

Kaplan, R. B. (1966). Cultural thought patterns in intercultural education. *Language Learning 16,* 1-20.

Kaplan, R. B. (1987). Cultural thought patterns revisited. In U. Connor and R. B. Kaplan (Eds.), *Writing Across languages: Analysis of L2 Text* (pp. 9-21). Reading, MA: Addison-Wesley Publishing Co.

Lautamatti, L. (1987). Observations on the development of the topic os simplified discourse. In U. Connor and R. B. Kaplan (Eds.), *Writing Across languages: Analysis of L2 Text* (pp. 9-21). Reading, MA: Addison-Wesley Publishing Co.

Mohamed, A., & Omer, M. (2000). Texture and culture: Cohesion as a marker of rhetorical organization in Arabic and English narrative texts. *RELC Journal, 31(2),* 45-75.

Ostler, S. (1987). English in parallels: A comparison of English and Arabic prose. In U. Connor and R. B. Kaplan (Eds.), *Writing Across languages: Analysis of L2 Text* (pp. 9-21). Reading, MA: Addison-Wesley Publishing Co.

Simpson, J. (2000). Topical structure analysis of academic paragraphs in English and Spanish. *Journal of Second Language Writing, 9(3),* 293-309.

Appendix A
The Inner Circle

1A

Bush's actions in Iraq have proved Osama bin Laden's charge that the U.S. is trying to conquer Islamic lands. Bush's aggressive, unilateralist foreign policy and blinkered support for Israel have made him hated throughout the Middle East. His presidency has provided plenty of recruitment material for al-Qaeda. Four more years will doubtless provide more. Yes, bin Laden knew exactly what he was doing when he released that videotape. And his efforts paid off.
Lorna Forse
Manchester, England

1B

The situation in Darfur reminded me of the lawless state of nature described by the philosopher Thomas Hobbes, in which life is "nasty, brutish and short." If urgent steps are not taken by the Sudanese government and the international community to end the Darfur atrocities, the fighting may extend to the neighboring East African region and further deteriorate the existing socioeconomic and political problems of the entire African continent.
Okeke Jide Martyns
Bradford, England

1C

It is good that TIME highlighted the fact that there are moderate Muslims who denounce Islamic terrorism and strive for a more tolerant and open interpretation of Islam [Sept. 13]. Sadly, many of those Muslims learned their moderation from contact with the West; current Islamic culture by itself seems unable to produce such broad-mindedness on a large scale. That is not too surprising. In most Muslim countries, citizens are not exposed to the true teachings of other religions; indeed, they are often encouraged to despise others' beliefs, although ignorant of their probably suffer grave consequences. Until such attitudes change, the voice of Muslim moderates will always be curtailed, and Islam will continue to be a vehicle for uninformed hatred of the West.
Colin Sowden
Abergavenny, England

2A

Time and time again I am amazed by the quality of reporting by Australian journalist Michael Ware, who has tirelessly covered the war on terrorism for TIME in very difficult, trying and dangerous circumstances. It is easy to take articles like his for granted, but we must pay tribute to remarkable people like Ware who continually provide us with gritty, high-quality journalism directly from the front lines. As an aspiring journalist, I wholeheartedly salute Michael Ware.
Nick Smart
Gold Coast, Australia

2B

The connection between al-Qaeda and Iran from October 2000 to February 2001 that the 9/11 commission uncovered [July 26-August 2] is not news to everyone. Thanks to Iran's vast oil revenues, the Iranian mullahs are able to finance Islamist terrorists worldwide. Iran is, in fact, the mother of modern Islamist terrorism, with its truck bombings, suicide attacks, hostage taking and international assassinations. Iran has been on the wrong side of the law for a long time, and the world has made only minimal attempts to stop it. Misusing the funds that belong to the Iranian people, the hard-liners in Tehran are waging war against the U.S. in key spots worldwide. The U.S. and other Western governments should not negotiate with the mullahs. Instead, they should help the youth of Iran bring an end to the mullahs' regime and drain the terrorists' source of money.
Sam Savanna
Sydney

3A

The decision by the Philippines to withdraw its peacekeepers from Iraq in exchange for the release of a Philippine truck driver who was kidnapped by insurgents is to be applauded [Aug. 9]. Surely it is the duty of any government to safeguard its own people before anything else. The Philippines did not cave in to U.S. pressure or sacrifice one of its citizens to satisfy the Bush Administration.
C.A. Van Meurs
Christchurch, New Zealand

4A
Your article "redefining torture" described efforts by the Bush Administration to reshape the U.S. stance on the torture of prisoners during interrogation [June 21]. Have we sunk to the level of those we are fighting—those who we say are using immoral methods? I never thought I would see the day when high-level U.S. government agencies would be exchanging memos attempting to justify actions that Americans would condemn if perpetrated by others. I remember the outrage that we felt during the Korean War when the North Koreans were accused of brainwashing American prisoners. Similar activities were decried in subsequent wars. Now, as an American living in Canada, I see us carrying out equally repulsive actions.
Richard Andersen
Victoria, Canada

4B
The Iraq war is being portrayed as an unmitigated disaster. If that's the only drumbeat the American public hears, many people are going to feel apprehensive and negative about it. My parents told me that after World War II, many cases of brutality and viciousness occurred in Europe—like the aftershocks of an earthquake. But eventually those events played themselves out, order was restored and life in dictator-free societies was allowed to thrive. That is the reality of war. You don't have instant peace, affluence and harmony just because a document has been signed. I am convinced the result, perhaps many years away, will be a free and democratic Iraq that will benefit the world.
Christa Gruninger
Vancouver, Canada

4C
The U.S. government has nowhere to hide in its shameful inaction over yet another African humanitarian crisis. The U.S. trumpets its intention to bring freedom and justice to economically important places in the Middle East but allows sadistic violence and true crimes against humanity to fester in less strategic areas, such as Africa. How can the Bush Administration look at itself in the mirror with this knowledge? And how can the international community believe the U.S.'s self-righteous claims of valiantly "liberating" oppressed nations when it took months of debate within the Administration to begin pressuring the Sudanese government to halt the slaughter of Darfurians?
Scott Whittal
Waterloo, Canada

5A
I have been haunted and sickened by the photos and news coming out of Sudan [Oct. 4]. Most of the world seems to ignore completely the genocide in the region of Darfur carried out by the government-backed Janjaweed Arab militia against non-Arab Muslims. Although I am wondering what I can do to help, world leaders appear to be waiting for the murder to come to an end magically. With all the wealth and power in this world, why aren't they jumping in to save the people in Darfur? Are Sudanese oil interests and political alliances so important that 50,000 people must be allowed to die? It feels as though we are losing our sense of humanity. My hope for the future of our world is diminished each time we blatantly ignore the needs of our fellow human beings.
Kristy Caruso
Sauquoit, U.S.

5B
Unless the U.S. is smart enough to make the right decision soon, it is going to have one Fallujah after another in Iraq for years to come [Nov. 22]. Sunnis and Baathists were able to control Iraq for

decades under Saddam Hussein. They will fight forever, because the Shi'ite majority would defeat them in a general election. Why not create an Iraq federation of three states—Shi'ite in the south, Sunni in the middle and Kurd in the north? Each state would govern itself, and the Iraqi federal government would be in charge of the oil industry, defense, foreign diplomacy and smoothing over religious differences. What other scheme will get the U.S. out of the Iraqi quagmire anytime soon?
Martin Michaelis
Amherst, New Hampshire, U.S.

*5*C
"Meet the New Jihad," on the Islamic insurgency in Iraq [July *5*], provided another example of the folly of U.S. foreign policy regarding Islamic nations during the past *5*0 years. The U.S. helped arrange the overthrow of Iran's democratically elected President and wound up with a fundamentalist Islamic state. Our opposition to Soviet influence in Afghanistan led to the creation of the Taliban. In the process we aided and empowered Osama bin Laden. We have given uncritical support to Israel and as a result made a viable Palestinian state a virtual impossibility. We launched a unilateral and pre-emptive war on Iraq on the basis of false claims, and now a new jihad has formed against us there. Will our foreign policy again midwife into existence a new fundamentalist state?
John A. Bertsche
Normal, U.S.

*5*D
Sudan's Arab Janjaweed, the country's government-backed militiamen, have declared war on the black Africans of Sudan [July *5*] and begun a virtual genocide against those defenseless people. Didn't the nations of the world say "Never again" after the Holocaust of the 1940s, the starvation of Biafrans in the '60s, the slaughter of Cambodians in the '70s and the wanton butchery in Rwanda in 1994? What does it take for the world to act? The U.N. is ineffectual, the European Union is asleep and Arab nations live in denial. If we Americans continue to allow genocide to repeat decade after decade, how long will it be before that crime arrives on our own shores?
Michael Bussio
Scotts Valley, U.S.

Appendix B
The Outer Circle

1A

The Japanese people should ask themselves why their national flag is being torched with greater frequency than the Stars and Stripes or the Union Jack [Nov. 29]. Like most Chinese whose grandparents bore the brunt of Japanese aggression, I am sickened by half-hearted and insincere "apologies" framed in the language of "regret" and compensation called "economic aid." I am also outraged by constant denials by the Japanese government on topics ranging from the biological-weapons program to comfort women, and I am disgusted by the deliberate omission or glorification of the war in Japanese history books. Therefore, every visit by Japanese leaders to the Yasukuni Shrine adds insult to the injuries of victims of Japanese militarism. The animosities would have been laid to rest had General Douglas MacArthur applied the denazification process used in Germany to Japan in 1945. We do not want the blood of the Japanese people. We only want them to recognize the blood of millions of innocent people they shed from 1931 to 1945. Is that so difficult?
Liew Kai Khiun
Singapore

1B

I can relate to your cover story on Asia's "Highways to Hell" [Aug. 9]. I have lived in Singapore my entire life, and I am sometimes appalled by and ashamed of the actions of fellow drivers. Singapore has its share of aggressive, me-first motorists, yet we have the lowest number of traffic deaths among the major Asian countries, as reflected in the chart with your article. Why is this so? Singapore's small land area allows efficient administration, and its hefty traffic fines and extensive use of cameras to catch speeders act as deterrents to fast driving. An ideal traffic environment, however, is one that relies mainly on the conscientiousness of the drivers, as opposed to one that is governed by deterrents. Creating a caring and conscientious society of road users will require dedication and persistence.
Joel Kan
Singapore

2A

How can President Bush justify the deaths of more than 1,000 U.S. troops in a war that is not necessary? No matter what Bush tells the world about fighting terrorism, Americans are now more in danger of being attacked. The President should withdraw U.S. troops from Iraq. The puppets installed there are walking corpses. The moment they are not protected by U.S.-supplied security forces, those officials will be hounded to death by the insurgents. There should be no shame for the U.S. in getting out of Iraq.
Nats Onoja Agbo
Lagos, Nigeria

2B

Innocent American lives should no longer be wasted in Iraq. The Iraqi police and defense forces should want peace and freedom in their country enough to fight for it. The U.S. should stop sacrificing its soldiers for a cause that Iraqis are not willing to fight for themselves. The U.S. cannot secure Fallujah against further attacks from insurgents if the Iraqi police don't stand up to their responsibilities and fight for their own freedom.
Tunde Ogunjana
Lagos , Nigeria

2C

The killings in darfur are an even greater challenge to the Muslim world than the devastation in Iraq. Muslims should know that Islam abhors racism, terrorism and all other forms of injustice. The Janjaweed's terrorist tactics are un-Islamic. Human life is sacred and so is a woman's chastity. These murderers and rapists should repent and embrace reconciliation.
Abdullahi Kirfi
Lagos, Nigeria

3A
People holding extreme views need to understand that terrorism is a shortsighted approach that triggers an unending chain of actions and reactions. Attackers who take innocent people hostage must learn that violence against civilians only undermines their credibility, even when world opinion supports their cause. Tragedies like the Beslan killings should bring all nations together to root out terrorism. No country should be allowed to harbor terrorists.
M. Farooq Shah
Srinagar, Kashmir

3B
No one can deny the honesty, soberness and austere public life of Singh. But there are also inabilities and inefficiencies that could work against him. Political problems may outweigh Singh's good personal qualities. India needs a firm initiative to establish political consensus. Mere advice to the political parties is not enough. Singh's humility and avoidance of personal publicity are exemplary and should be a permanent rule for all politicians. He should, however, have the courage to introduce compulsory family-planning legislation. A bold and decisive Singh will take India on a path of development and prosperity.
Madhu Agrawal
New Delhi

3C
Your article on the suicide bombing in Jakarta focused on the terrorism still prevalent in Indonesia [Sept. 20]. That attack came less than two years after the October 2002 bombing on the island of Bali that killed 202 people. Indonesians today are praying for peace in the region and an end to terrorist activities. The devastation in Indonesia has shocked the world and clearly shows that Muslim nations are strongly affected by terrorism, the same way other countries are. Peace is something the region demands.
Akshay Mor
Bombay, India

4A
Re TIME's selections of "Best of Asia" [Nov. 22]: I can't believe you named Tokyo's Club Quattro as the Best Live Music Venue. Everyone in the region knows that the best live music is in the Philippines. Check out any happening music club in Asia, and you'll find that Philippine bands are at the center of the action. The bands at Club Quattro, which you called "rock's leading lights," like Oasis and the Red Hot Chili Peppers, are anglophone global brand names. For real musicianship, grit and oomph, the mecca for live bands is the red-light underbelly of Manila, the sin city. That's where you'll hear people who can really play. Live.
Kail M. Zingapan
Manila

4B
South Korean President Roh Moo Hyun may have stood firm with plans to dispatch 3,000 Korean soldiers to Iraq, but one of his citizens was murdered after being taken hostage there. From this example, Philippine President Gloria Macapagal Arroyo learned a lesson [Aug. 9]. Her decision to pull out our peacekeepers from Iraq in order to save a kidnapped Philippine truck driver may have been against the wishes and plans of Washington and other allies, but her actions saved a life.
Dionne Lee Esteban Caytiles
Quezon City, the Philippines

5A
The whole world watched the nail-bitingly close presidential election, but it was followed here in Pakistan with special concern. As the most important front in the war against terrorism, Pakistan had much at stake in the outcome of the election. The man in the street had no liking for either candidate, as both Bush and Kerry seemed anti-Muslim. Kerry's belligerent and aggressive promises

to be a much stronger Commander in Chief than Bush further antagonized common Pakistanis. Now they are resigned to the re-election of Bush as the lesser of the two evils.
Colonel Riaz Jafri (ret.)
Rawalpindi, Pakistan

6A
There is a lot of speculation about the explosion in North Korea that produced a mushroom-shaped cloud [Sept. 27]. Although Pyongyang denies it blew up anything nuclear, I wouldn't mind if North Korea acted as a counterweight to the U.S. People the world over are supposed to accept the opinions and directions of the West and to follow the American way of life. Different viewpoints, which used to be valued by democratic societies, are not very popular these days; therefore, it is good when other nations and cultures try to resist domination by the West. The North Korean government feels threatened by the U.S., so it is highly understandable that a little country aims to protect itself. That, of course, could best be achieved by developing nuclear weapons.
Tahir Niap-San
Kuala Lumpur, Malaysia

7A
Re "The Battle for Hong Kong," on the struggle between Beijing and the pro-democracy camp [July 5]: In Hong Kong, the lack of democratic legitimacy is crippling the chief executive, and the same cycle is inevitable in China. China must realize that power can be derived only from the consent of the people, not from persecution and oppression. The demand for democracy in China will become so great that there will be no way for the Beijing government to suppress it with guns and tanks.
Lester H.L. Lee
Hong Kong

Appendix C
The Expanding Circle

1A

Your report on the friction between China and Japan may send the wrong message to the people of both countries. As a Japanese studying in Beijing, I have never encountered an anti-Japanese demonstration in the two years I have been here. Although there are some Chinese who are hostile to the Japanese, they are in the minority and regarded simply as impolite. In Japan, as far as I know, those who view China as an enemy are also in the minority. Nationalism in either country is not a threat to the Sino-Japanese relationship. The people of Japan and China must not be misguided by the media and should continue to deepen their understanding of one another.
Norihisa Kodama
Beijing

2A

For long periods of history, it was Japan that learned fundamental technological skills from China. During recent decades, it was Japan that taught China how to make technological advances. So now the two countries are even. Why should the Chinese hesitate to make a fresh start alongside the Japanese? Do they hate us? I don't care. Do they want to invade us? They can't. Isn't it time we put our emotions behind us and became good negotiators to get what both of us really want? I believe we can do it. Let's give it a try.
Takehiro Hashimoto
Tokyo

2B

I am not American, but I respect the choice of those who re-elected President Bush [Nov. 15]. I wish to remind them, however, that the decision they have made will also affect the citizens of the rest of the world, who desperately hope to see a less violent world in the next four years.
Patama Udomprasert
Tokyo

2C

"The Morning After" [Nov. 1] asked if, when the presidential campaign is over, it will "be possible to pick up the pieces, bridge the gaps and reunite the United States." Now that Bush has been elected for another four years, the stakes could not be higher for the people of the world, the majority of whom seem to be against him. Bush's victory was a defeat for the world. It's too bad we don't have global suffrage for U.S. presidential elections.
Tetsu Suzuki
Kariya, Japan

2D

Re "Unfinished Business" [July 12], about Japan's elections: Junichiro Koizumi has what it takes to be a great Prime Minister: dedication, sincerity and a good sense of humor. He has been getting lots of criticism from the public, but as the country's leader, he will never leave his job unfinished. He is a man of his word. We all need to wait and see. I believe we can trust Koizumi.
Takehiro Hashimoto
Tokyo

2E

The notebook item "Princess Diaries" [June 21] said that Japan's Crown Princess Masako is "utterly miserable," possibly because she is not allowed to take advantage of her career experience. When Masako married Crown Prince Naruhito, I was so happy. I admired him for having waited for Masako for six years. It must have been true love. The imperial marriage was a good model for Japanese young people. I wish the Imperial Household Agency [the ultra-traditional overseer of the activities of Japan's royal family] would change, so that the Harvard-educated princess, who worked in the Foreign Affairs Ministry, could live her life to the fullest.

Yoko Ninomiya
Hiroshima

3A
The priority for President Bush's second term should not be Iraq but the global war on terrorism. Any successful war on terrorism must start, however, with finding a peaceful solution to the Israeli-Palestinian conflict, which is at the epicenter of the wider war. Because of the consequences of America's biased support of Israel, the U.S. faces strong and increasing anti-American sentiment among Muslims. The U.S. needs to change the perception that the war on terrorism is a war on Islam. The U.S. needs to be a neutral arbitrator that tolerates, supports and loves Israelis and Palestinians equally and fairly. Only then can the war on terrorism be won.
Volak Sao
Phnom Penh

4A
Powell's comments on Taiwan's lack of sovereignty hurt the hearts of most of its people. Taiwan, by all means, is a de facto political entity with its own constitution and a government under a gradually maturing democratic system. Taiwan's people are fed up with being spectators of a tedious "one China" tug-of-war. What we desperately need from the international community is basic respect and formal recognition of our sovereign status. Taiwan's interests should not be sacrificed as U.S. foreign policy leans toward accommodating China for the foreseeable future.
Chang Huan-Lin
Tucheng, Taiwan

4B
"The Exile and the Entrepreneur" [June 7] reported on how the 1989 protests and their brutal suppression by the government is rapidly fading from the Chinese people's memory. That is too bad. China is still haunted by the ghosts of Tiananmen Square, as the Communist Party continues to ignore the people's best interests. Compared with the democratic movements in Taiwan, the 1989 Tiananmen uprising was hardly a call for radical change. And it shouldn't have been ended with a massacre.
Song Xiaowen
Pingzhen City, Taiwan

4C
Your article achieved a rich understanding of the health, functioning and well-being of adolescents. The ideas presented contribute to urgently needed scientific, policy, and public discussions about how we prepare our young people to become thoughtful, responsible and effective participants in their societies. Parents, teachers and professionals in relevant specialties should develop strategies to modify or mitigate the impact of the challenges, both biological and social, young people have to face. The answers to the optimal planning for producing the next generation of self-sustaining citizens have important implications for our own future, because the youth of today are the adults of tomorrow.
Angela Fan
Taipei

5A
The attitude of Asians toward North Korean leader Kim Jong Il has changed because he has tried to do a lot for the region. Now it is time for the Bush Administration to change too and do something practical. North Korea wants diplomatic recognition and a noninvasion treaty. On your cover you show a proud Kim who is smiling, but in fact he still feels threatened.
Cheol-Ho Jang
Yongin, South Korea

5B

North Korean dictator Kim Jong Il seems to be pushing for the unification of North and South Korea while lobbying against America's influence. Kim has been increasingly successful in strengthening his position in Asia and the world, as you correctly reported. South Korea's conservative opposition Grand National Party (GNP), once staunchly anticommunist, has changed. Many of the older generation of politicians were expelled, and its leaders are insisting that the GNP should not disturb inter-Korea projects, as the party once did. Has the North been trying to infiltrate the party? The GNP might be the last remaining obstacle to Kim's goal of improved relations with the South.
Min Jeong Koh
Jeju, South Korea

6A
The election campaign was extremely divisive. Voters were called on to recognize fundamental differences between the candidates. The issues of character and values may have given the edge to Bush. So how can one call for a truce if such important issues are at stake, and why should the nation fall in line behind President Bush? If you voted for Kerry, what is wrong with accepting that for the next four years this President does not speak for you? What is wrong with recognizing disunity? Harmony does not come from a nation united behind its leader, giving him a second chance. It comes from responsible citizens working toward and arguing about the principles they want to build their society on. Do not expect the divisiveness to be healed by a leader. That leader, whoever it may be, needs it to win next time.
Peter Molnar
Pezinok, Slovakia

About the Author

Dr. Shirley Dita is an Assistant Professor at the Department of English and Applied Linguistics at De La Salle University, Manila, the Philippines. She is a graduate of PhD in Applied Linguistics, Distinction, from De La Salle University – Manila and worked on A Reference Grammar of Ibanag as her dissertation. The research interests of Shirley include Austronesian linguistics, Philippine languages, syntax, Corpus linguistics, and discourse analysis. She has presented papers in national and international conferences here and abroad. She has also published some of her research papers. Currently, she is involved in a corpus-building project of Philippine languages.