

Learning Styles, Writing Self-Efficacy and Academic Achievement: Bases for Pedagogical Intervention

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ABSTRACT

Learning style is a student's innate and unique way of dealing with the learning stimuli which teachers must learn to recognize, acknowledge, respect and accommodate in devising learning activities to improve student's academic attitude and achievement. This study focused on the association between learning style and academic achievement and on the correlation between student's writing self-efficacy and academic achievement in English 2. The respondents of the study were the 290 first year education students from Bachelor of Technical Teacher Education, Bachelor of Secondary Education and Bachelor of Elementary Education. The descriptive survey method using convenience sampling was employed. A downloaded Learning Styles Survey Questionnaire was used to determine the respondent's learning style preference while a researcher- devised questionnaire on writing self-efficacy was used to determine the respondent's writing self-efficacy level. Statistical tools were frequency count, percentage, mean, standard deviation, Chi-square and Pearson's r set at .05 level of significance.

For learning style, results revealed that 76.21 % had single preference while 23. 79% had multiple preferences. The top three preferences were visual (37.59%), auditory (35. 86%), and visual-auditory (19.31%). The grade mean of the respondents in all learning styles was "Very Good" (85-89). The grand mean of the respondents' writing self-efficacy in all learning styles was "High". In all levels of writing self-efficacy, the grand mean of respondents' academic achievement was "Very Good" (85-89). The association between academic achievement and learning style was significant. The correlation between writing self-efficacy and academic achievement in English 2 was positive but not significant. Students have varied learning styles; so, teachers must have varied teaching strategies. The teachers of the English Division will be writing Modules catering to the learning styles of the students in English subjects offered in the College.

Keywords: *Learning style, writing self-efficacy, academic achievement, education students*

1. INTRODUCTION

1.1. Background

Learning is a lifetime endeavor. As said by George Santayana, "The wisest mind has something yet to learn". This is so because education is a lifetime process. Every person is unique, so with his/her learning style. According to Dunn and Dunn (1993), learning style is the way in which each individual learner begins to concentrate on, process, absorb and retain new and difficult information. Learning style is one aspect of a student's innate uniqueness which teachers must learn to recognize, acknowledge and respect. Moreover, learning styles are the characteristic, cognitive, affective and psychological behaviors that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment (Keefe and Monk, 1986 in the Festival of Learning Styles and Teaching Strategies, 2002). Accommodating individual learning style preferences through



complementary educational, teaching, and counseling interventions results to increased academic achievement and improved student attitude toward learning (Philosophy of the Dunn and Dunn Learning Styles Model in Tenedero, 2002). Moreover, Cassidy (2004) as cited by Cox (2013) states that “there is a general acceptance that the manner in which individuals choose to or are inclined to approach a learning situation has an impact on performance and achievement of learning outcomes.” Therefore, the learning styles of the students will guide the teacher on how to deliver the lesson and how to introduce and manage classroom activities and other enrichment exercises related to the subject matter being tackled in the classroom.

To have schooling success, students must have a writing competency which springs from their writing self-efficacy. According to Spicer (2012), writing self-efficacy refers to students’ beliefs in their ability to perform written English tasks successfully. Such tasks can include written composition, producing grammatically correct samples of writing and correctly punctuating writing. Students writing skills and self-efficacy, at the outset of the school term, have been found to predict their writing performance at the conclusion of the school term. Overall, students who evaluate themselves as poor writers tend to perform accordingly, being reluctant to engage in writing tasks and more likely to produce either brief or incomplete pieces of writing while students with higher writing self-efficacy have been found to complete writing work at a higher standard. Since writing self-efficacy is significantly related to writing performance, investigating the written English self-efficacy of students as members of a traditional classroom is essential.

1.2. Significance

The result of the study would serve as baseline data for pedagogical intervention to be done by the English Division Faculty of the University so as to enhance the learning and writing skills of the students to prepare them for their future tasks in the teaching profession. Likewise, it is one way of promoting quality performance of the students to meet the demands of the global job market. The result of the study will give the administrators insights on the learning styles of students so they can provide the learning tools according to the students’ learning styles. The teachers as well be aware of students’ learning styles; so, they can device learning activities to accommodate them. The students will be aware of their specific learning styles; they will be encouraged to adopt other learning styles to be attuned to different learning situations. Lastly, the guidance counselors will have the baseline data on planning for academic guidance activities.

1.3. Objectives

- 1.3.1. To determine the respondents’ learning style preferences
- 1.3.2. To find out the respondents’ writing self-efficacy level
- 1.3.3. To find out the academic achievement of the respondents
- 1.3.4. To ascertain the association between learning style and academic achievement
- 1.3.5. To determine the relationship between writing self-efficacy and academic achievement

1.4. Problem

- 1.4.1. What are the learning styles of the respondents?
- 1.4.2. What is the respondents’ level of writing self-efficacy?
- 1.4.3. What is the respondents’ level of academic achievement in English 2 as to learning style and writing self-efficacy?
- 1.4.4. What is the mean of the respondents’ academic achievement when classified as to having single and multiple preference?
- 1.4.5. Is there a significant difference in the means of the respondents’ academic achievement when classified as to having single and multiple preference?
- 1.4.6. Is academic achievement associated to learning style?
- 1.4.7. Is there a significant relationship between writing self-efficacy and academic achievement in English 2?

1.5. Framework

The study was based on The Dunn and Dunn Learning Styles Models. It is designed by Dr. Rita Dunn and Dr. Kenneth Dunn of the Center for the Study of Learning and Teaching Styles, St. John's University, New York. Dr. Rita Dunn is a multi-awarded educator in America. The model has five categories of stimuli with corresponding elements. One stimulus is environmental with the elements of sound, light, temperature and design. Another set of stimuli is emotional which includes elements like motivation, persistence, responsibility and structure. Sociological set of stimuli include working alone, in pairs, with peers, with an authority or with variety. Physiological stimuli include perceptual preferences like hearing (auditory), seeing (visual), handling (tactile) and actively participating (kinesthetic); intake preferences-the need for something to eat or drink; time of day preference and mobility. The last set of stimuli is psychological involving elements of processing inclinations and preferences which are analytic versus global and impulsive versus reflective . (Tenedero, 2002) In the study, the researchers focused on the physiological stimuli with preferences like hearing (auditory), seeing (visual) and handling (tactile/kinesthetic).

Another basis of the study is the self-efficacy theory of Albert Bandura (1995) which states that self-efficacy is "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations". In other words, self-efficacy is a person's belief in his or her ability to succeed in a particular situation. Virtually, all people can identify goals they want to accomplish, things they would like to change, and things they would like to achieve. However, most people also realize that putting these plans into action is not quite so simple. Bandura and others have found that an individual's self-efficacy plays a major role in how goals, tasks, and challenges are approached. Students with a strong sense of efficacy are more likely to challenge themselves with difficult tasks and be intrinsically motivated. These students will put forth a high degree of effort in order to meet their commitments, and attribute failure to things which are in their control, rather than blaming external factors. Self-efficacious students also recover quickly from setbacks, and ultimately are likely to achieve their personal goals. Students with low self-efficacy, on the other hand, believe they cannot be successful and thus are less likely to make a concerted, extended effort and may consider challenging tasks as threats that are to be avoided. Thus, students with poor self-efficacy have low aspirations which may result in disappointing academic performances becoming part of a self-fulfilling feedback cycle. The self-efficacy in a particular field of study can influence one's performance in that area of endeavor. (<http://serc.carleton.edu/NAGTWorkshops/affective/efficacy.html>, retrieved November 9, 2013)

Specifically, writing self-efficacy refers to students' beliefs in their ability to perform written English tasks successfully. Such tasks can include written composition, producing grammatically correct samples of writing and correctly punctuating writing. Students writing skills and self-efficacy, at the outset of the school term, have been found to predict their writing performance at the conclusion of the school term. Overall, students who evaluate themselves as poor writers tend to perform accordingly, being reluctant to engage in writing tasks and more likely to produce either brief or incomplete pieces of writing while students with higher writing self-efficacy have been found to complete writing work at a higher standard. Since writing self-efficacy is significantly related to writing performance, investigating the written English self-efficacy of students as members of a traditional classroom is essential.

2. MATERIALS AND METHODS

The respondents of the study were the 290 first year education students of Bachelor of Technical Teacher Education, Bachelor of Secondary Education and Bachelor of Elementary Education. A downloaded Learning Styles Survey Questionnaire was used to determine the respondent's learning style preference. (http://www.odessa.edu/dept/govt/dille/brian/courses/1100Orientation/LearningStyleInventory_survey.pdf) A researcher- devised questionnaire on writing self-efficacy with items focusing on competencies in vocabulary , writing sentences, paragraphs and compositions was used to determine the respondent's writing self-efficacy. The descriptive survey method using convenience sampling was employed. Statistical tools were frequency count, percentage, mean, standard deviation, Chi-square and Pearson's r set at .05 level of significance.

3. RESULTS AND DISCUSSION

Descriptive Data Analysis

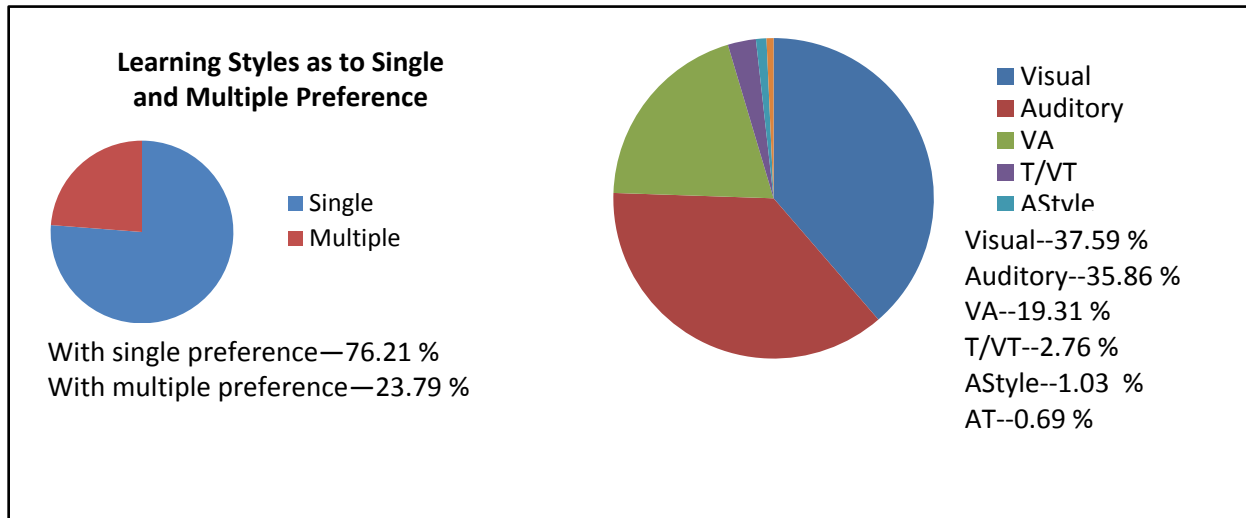


Figure 1

Learning Styles of the Respondents as a Whole

Figure 1 presents the distribution of the respondents as to learning styles. As to preferences in general, 221 or 76.21% had the single preference while 69 or 23.79% had the multiple preference.

The Visual learners were 37.59 %; Auditory learners were 35.86 %; Visual-Auditory learners were 19.31 %; Tactile/Visual-Tactile were 2.76 %; All Style learners were --1.03 % ; and Auditory-Tactile learners were 0.69 % . So, most of the respondents Visual and Auditory learners.

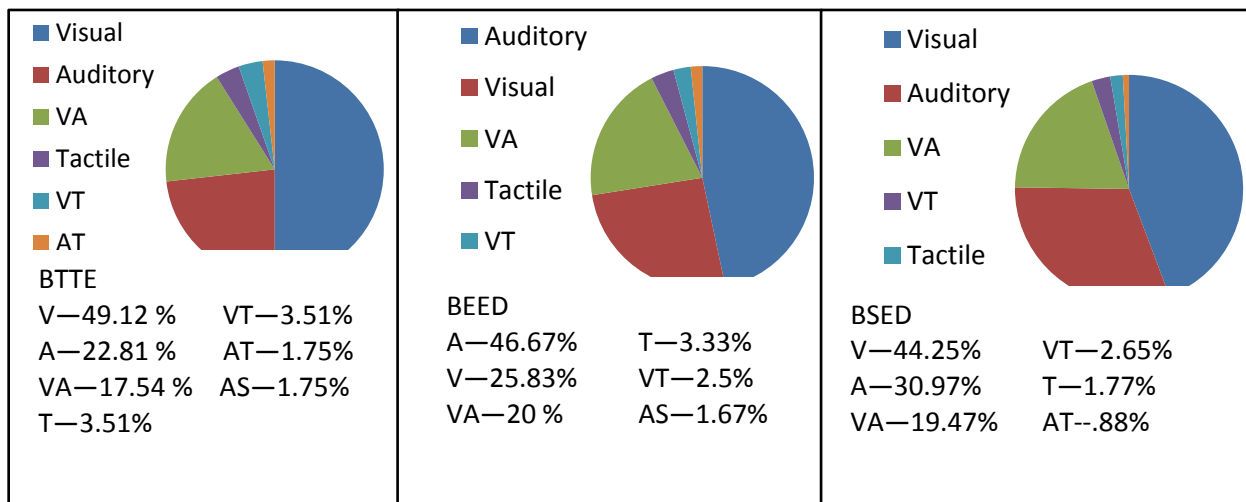


Figure 2

Respondents’ Learning Styles as to Curricular Program

BTTE students had the 49%- Visual ; 22 % -Auditory ; 17.54%- both Visual and Auditory ; 3.51 % -Tactile ; 3.51% -both Visual and Tactile learners; 1.75% - both Auditory and Tactile; and 1.75-All styles. The highest number of BTTE students were Visual learners. BEED students had the following learning style preferences: 25.83%- Visual ; 46.67 % -Auditory ; 20%- both Visual and Auditory ; 3.33 % - Tactile ; 2.5% -both Visual and Tactile; and 1.67-All styles. The highest number of BEED students were Auditory learners. BSED students had the following learning style preferences: 44.25%- Visual ; 30.97 % -Auditory ; 19.47%- both Visual and Auditory ; 2.65% -both Visual and Tactile; 1.77 %- Tactile and .88% both Auditory and Tactile. The highest number of BSED students were Visual learners. As a whole, the First Year Education students had the following learning style preferences: 37.59%- Visual ; 35.86 % -Auditory ; 19.31%- both Visual and Auditory ; 2.76% -both Visual and Tactile; 2.76%- Tactile and 1.03%-All styles and 0.69 both Auditory and Tactile. The top three learning style preferences of the First Year Education students were Visual , Auditory and Visual-Auditory.

Table 1
Distribution of the Respondents’ Writing Self-efficacy When Grouped as to Curricular Program and as a Whole Group

Writing Self-efficacy	Curricular Program							
	BTTE %		BEED %		BSED %		As a Whole %	
Very High	20	35.09	54	45	31	27.43	106	36.55
High	30	52.63	58	48.33	77	68.14	165	56.90
Low	7	12.28	8	6.67	5	4.42	19	6.55
Very Low								
Total	57	100	120	100	113	100	290	100

Table 1 presents the distribution of the respondents’ writing self-efficacy when grouped as to curricular program. As to the BTTE students’ self-efficacy level, 30 or 52.63% were High; 20 or 35.09 were Very High and 7 or 12.28% were Low. As to the BEED students, 58 or 48.33 were High; 54 or 45% were Very High and 8 or 6.67% were Low. As to the BSED students, 77 or 68.14 % were High; 31 or 27.43 % were Very High; and 5 or 4.42% were Low. As a whole group, 165 or 56.90 % were High; 106 or 36.55 were Very High; and 19 or 6.55 % were Low. The highest number of respondents had the “High” writing self-efficacy. It explains the fact that students are not yet fully mature in their writing as there are some errors that they still commit in their written outputs in regular writing activities or in major exams.

Table 2
Distribution of the respondents’ writing self-efficacy as to Learning Styles

Learning Style	Writing Self-efficacy Mean							
	BTTE		BEED		BSED		As a Whole	
Visual	3.02	High	3.11	High	3.09	High	3.09	High
Auditory	3.24	High	3.16	High	3.06	High	3.11	High
Tactile	2.7	High	3.56	VHigh	3.08	High	3.22	High
VA	3.06	High	3.22	High	3.08	High	3.14	High
VT	3.4	VHigh	3.33	VHigh	2.76	High	3.13	High



AT	3.7	VHigh	0	2	Low	2.86	High
All Styles	2.8	High	3.44	VHigh	0	3.25	High
Overall Mean	3.09	High	3.17	High	3.06	High	3.11

Table 2 presents the distribution of the respondents’ writing self-efficacy as to learning styles. As to BTTE students, the Visual-Tactile and Auditory-Tactile learners had Very High writing self-efficacy, while the Visual, Auditory, Tactile, and All-style learners had the High writing self-efficacy. As to the BEED students, the Tactile, Visual-Tactile, and All-style learners had Very High writing self-efficacy, while the Visual, Auditory, and Visual-Auditory learners had High writing self-efficacy. As to the BSED students, Visual, Auditory, Tactile, Visual-Auditory, and Visual Tactile learners had High writing self-efficacy, while the Auditory-Tactile learners had Low writing self-efficacy. As a whole, regardless of learning style preferences, the students had High writing self-efficacy.

Table 3

Distribution of the respondents’ academic achievement in English 2 when grouped as to curricular programs

Academic Achievement	Curricular Program							
	BTTE	%	BEED	%	BSED	%	As a Whole	%
Outstanding	0		32	26.67	13	11.50	46	15.86
Very Good	24	42.10	73	60.83	51	45.13	148	51.03
Good	24	42.10	13	10.83	36	31.86	73	25.17
Fair	9	15.79	2	1.67	13	11.50	23	7.93
Total	57	100	120	100	113	100	290	100

Table 3 presents the distribution of the respondents’ academic achievement in English 2 when grouped as to curricular program. As to BTTE students’ academic achievement, 24 or 42.10% were Very Good; 24 or 42.10% were Good; and 9 or 15.79% were Fair. The higher number was Good to Very Good. As to the BEED students’ academic achievement, 73 or 60.83% were Very Good; 32 or 26.67% were Outstanding; 13 or 10.83% were Good and 2 or 1.67% were Fair. The highest number was Very Good. As to the BSED students’ academic achievement, 51 or 45.13% were Very Good; 36 or 31.86% were Good; 13 or 11.50% were Outstanding; and 13 or 11.50% were Fair. The highest number was Very Good.

As a whole group, the highest number which is more than 50% of the students had “Very Good” academic achievement in English 2.

Table 4

Mean of the Respondents’ Academic Achievement in English 2 When Grouped as to Curricular Program and as a Whole

Curricular	Academic Achievement	SD	Description
BTTE	83.11	3.27	Good
BEED	87.68	2.87	Very good



BSED	85.12	4.05	Very good
As a whole	85.78		Very good

Table 4 presents the respondents' academic achievement in English 2 when grouped according to curricular program and as a whole. BEED students had the highest mean of 87.68 (Very Good), followed by BSED with the mean of 85.12 (Very Good) and last is BTTE with the mean of 83.11 (Good).

Table 5

Mean of the Respondents' Academic Achievement as to Learning Style classified as to Program and as a Whole

Learning Style	Grade Mean				As a Whole			
	BTTE		BEED		BSED			
Visual	83.11	G	87.87	VG	85.70	VG	85.65	VG
Auditory	82	G	87.54	VG	85.31	VG	86.10	VG
Tactile	80.5	G	86.25	VG	82	G	83.75	G
VA	85.1	VG	87.75	VG	84.27	G	85.91	VG
VT	83.5	G	88.67	VG	82	G	84.87	G
AT	83	G			84	G	83.5	G
All Styles	82	G	89.5	VG			87	VG
Mean Ave.	83.11	G	87.68	VG	85.12	VG	85.78	VG

Table 4 presents mean of the respondents' academic achievement per program when grouped as to learning style. Visual learners had the following grade mean: BTTE- 83.11 (Good); BEED-87.87 (Very Good); BSED-85.70 (Very Good) with the grand mean of 85.65 (Very Good).

Auditory learners had the following grade mean: BTTE-82 (Good); BEED-87.54 (Very Good); BSED-85.31 (Very Good) with a grand mean of 86.10 (Very Good).

Tactile learners had the following grade mean: BTTE-80.5 (Good); BEED-86.25 (Very Good); BSED-82 (Good) with a grand mean of 83.75 (Good).

Visual-Auditory learners had the following grade mean: BTTE—85.1 (Very Good); BEED-87.75 (Very Good); BSED-84.27 (Good) with a grand mean of 85.91 (Very Good).

Visual-Tactile learners had the following grade mean: BTTE-83.5 (Good); BEED-88.67 (Very Good); BSED-82 (Good) with a grand mean of 84.87 (Good).

Auditory-Tactile learners had the following grade mean: BTTE-83 (Good); BSED-84 (Good) with the grand mean of 83.5 (Good).

All-style learners had the following grade mean: BTTE-82 (Good); BEED- 89.5 (Very Good) with a grand mean of 87 (Very Good).

Among the learners with multiple preferences, it can be noted that all-style learners had the highest grand mean followed by Visual-Auditory, then by Visual-Tactile learners. Among the learners with single preferences, Auditory learners had the highest grand mean, followed by Visual, then by Tactile learners. The grand mean ranges from Good to Very Good, but the overall grand mean was Very Good in the middle ground of the range of means.

Table 6*Mean of Respondents' Academic Achievement Classified as to Writing Self-efficacy*

Writing Self-Efficacy	Curricular Program			
	BTTE	BEED	BSED	As a Whole
Very High	82.9	87.54	84.13	85.51
High	83.1	87.74	85.51	86
Low	83.83	88.33	85.4	85.57
Average Mean	83.10	87.69	85.13	85.78

Table 6 presents the mean of the respondents' academic achievement as to their writing self-efficacy. As a whole, the grade mean for all levels of writing self- efficacy was Very Good.

Inferential Data Analysis

Table 7*Contingency table on the association of academic achievement and learning style*

Learning Style	Visual	Auditory	Visual-Auditory
Academic Performance			
75-79	8	8	6
80-84	33	26	10
85-89	58	52	33
90-94	18	20	7

 $\alpha = 0.05$

df=6

p-value = .00000572

*

Table 7 presents the contingency table on the association of academic achievement and learning style. The p-value which is .00000572 is less than the alpha level of significance which is 0.05 which means that there is a significant association between academic achievement and learning style. Thus, the null hypothesis which states that there is no significant association between academic achievement and learning style is rejected.

The result is supported by Cassidy (2004) as cited by Cox (2013) when he stated that "there is a general acceptance that the manner in which individuals choose to or are inclined to approach a learning situation has an impact on performance and achievement of learning outcomes.

Table 8*Correlation between academic achievement and writing self-efficacy*

	n	r	r ²	p-value	Remark
Academic Achievement	290	0.04	0.0016 (.16%)	.530	NS
Writing Self-efficacy					

 $\alpha = 0.05$

Table 8 shows the correlation between academic achievement and writing self-efficacy of the respondents with $r=0.04$ which describes a Low Positive Correlation. The $r^2=0.0016$ converted to percent revealed that .16 % of writing self-efficacy explains the variance in academic achievement in English 2. The correlation is positive which means that when writing self-efficacy goes higher, the academic achievement in English 2 (Writing in the Discipline) goes higher too. In support to this result, Sarkhoush (2013) in his study, "Relationship among Iranian EFL Learners' Self-efficacy in Writing, Attitude towards Writing, Writing Apprehension and Writing Performance" concluded that self-efficacy and writing performance were positively correlated.

A p-value of .530 is greater than the 0.05 level of significance which means that there is no significant correlation between writing self-efficacy and academic achievement in English 2. Thus, the null hypothesis which states that there is no significant correlation between academic achievement and writing self-efficacy was not rejected.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1. Conclusions

For learning style, results revealed that most of the respondents had single preference while a few had multiple preference. The top three preferences were visual, auditory and visual-auditory. The grade mean of the respondents in all learning styles was "Very Good". The grand mean of the respondents' writing self-efficacy in all learning styles was "High". In all levels of writing self-efficacy, the grand mean of respondents' academic achievement was "Very Good". The association between academic achievement and learning style was significant. The correlation between writing self-efficacy and academic achievement in English 2 was positive but not significant.

4.2 Recommendations

Teachers would device varied teaching strategies and learning activities to cater to the learning styles of the students and to help them develop multiple preference so that they can adjust to different learning situations. The teachers could help the students to enhance their writing self-efficacy by engaging them in guided and free composition writing activities and exposing them to mass media in English for content and language acquisition. The teachers could scaffold the students to raise their academic achievement by devising learning activities that push them beyond their limits. The teachers of the English Division would be writing Modules catering to the learning styles of the students enrolled in the English subjects as part of the pedagogical intervention program of the University.

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