

Learning and Thinking Styles and Academic Performance of Liberal Arts Students

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Abstract – This investigation sought to determine the relationship between learning and thinking styles and academic performance of the liberal minded students. Specifically, it aimed to describe the profile of the respondents in terms of sex and program; determined the respondents' learning and thinking styles and their academic performance; compared the three variables of the study when grouped according to student's profile; and establish relationship between learning and thinking styles and academic performance of the respondents. Results of this study showed that majority of the respondents were female Communication students with hierarchical thinking and collaborative learning styles obtaining a GWA of 1.95. Both conservative and monarchic thinking styles were found to have significant difference in terms of sex whereas collaborative thinking style was found to be significantly different in terms of the Program. The local subscale of thinking style was found to be significant only to dependent learning style. Almost all variables of the study were significantly correlated with one another except for the global subscale of thinking style which has no significant relationship between learning and academic performance of the respondents

Keywords – academic performance, liberal arts, thinking and learning styles

INTRODUCTION

The school is the part of the community wherein people most especially the youths are expected to be taught of things that can help them hone their potentials to breed success in the future. School is just like a garden full of many varieties of flower for there are different kinds of students who can be identified inside the four walls of a classroom. Student diversity has always been one of the most notable and observed phenomenon in the field of education. Students may belong in a single section or block but they still differ individually in various dimensions such as race, ethnicity, gender, socio-economic status, age or religious and political beliefs. They may also be different from different aspects such as physical, social, emotional and mental but another notable difference between students are their learning and thinking styles respectively.

College students have their own ways to learn for they have different styles of learning. As part of the learning process, students have their own ways of gathering and organizing information. They have their distinctive means in processing the ideas they acquire and the way they form new ideas. Some students learn in many different ways and strategies. Everyone has the skills and capabilities in gaining knowledge through their chosen styles or ways of learning.

Ghanbari and Talab [6] described learning styles as indicators of how learners perceive, interact with, and respond to the learning environments. There are several techniques and styles of learning the world have. These styles could help an individual to learn and deal with their studies. There are students who are visual, auditory and kinesthetic learners and they all have differences but only achieving for one goal. From the above mentioned learning styles, the visual students prefer to see and visualize the relationship between ideas whereas for auditory, they prefer to hear rather than reading and seeing visually ideas reading them. For kinesthetic learners, they learn best by doing through hands-on and experiential learning.

On the other hand, if students have different ways on how to learn, they also have different ways of thinking. Robert Sternberg [27] in his theory of mental self-government, thinking styles according to him, are referred to as the ways in which people choose to use or exploit their intelligence as well as their knowledge. Thus, according to his theory of thinking styles, people choose styles of managing themselves within which they are most comfortable in their everyday interaction involving their cognitive abilities like using their analogy of the various dimensions of the government. On the other hand, if students have different ways on how to learn, they also have different ways of thinking. Robert Sternberg [27] in his theory of mental self-government,

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Understanding the relationship between learning and thinking styles may be central to developing more effective study techniques that would enhance students' academic performance. Academic performance as a construct is the outcome of education and the extent to which a student, teacher or institution has achieved their educational goals. This construct is commonly measured by examinations or continuous assessment but there is no general agreement on how it is best tested or which aspects are most important as procedural knowledge such as skills or declarative knowledge such as facts.

Academic performance as used in this study is the measure of how well students do in an educational setting which reflects the final grade they earned in the course that represents their General Weighted Average (GWA) as a convenient summary measure of the academic performance of the students every end of each semester. Additionally, performance in school evaluated in a number of ways. For regular grading, students demonstrate their knowledge by taking written and oral tests, performing presentations, turning in homework and participating in class activities and discussions. Teachers evaluate in the form of number grades and offer comments to describe how well a student has done or back up the specific grade that was given. At the college, students are evaluated by their performance on examinations prepared by teachers based on a set of achievements students in each course are expected to meet.

OBJECTIVES OF THE STUDY

This investigation sought to determine the relationship between learning and thinking styles and academic performance of the liberal minded students. Specifically, it aimed to describe the profile of the respondents in terms of sex and program; determined the respondents' learning and thinking styles and their academic performance; compared the three variables of the study when grouped according to student's profile.

MATERIALS AND METHODS

Research Design

The researchers used descriptive research design to better facilitate the study and to achieve best possible results. The descriptive research design is most suitable to employ in order to assess the demographic profile and the variables of the study as to learning and thinking styles and academic performance of the respondents

Participants

The participants of this academic undertaking were total population (49) of the Liberal Arts students from the College of Education, Arts and Sciences enrolled during the First and Second Semester of Academic Year 2018-2019. The said students are from the different programs of the College such as AB Psychology, AB Mass Communication, and AB Multimedia Arts respectively.

Measures

Grasha-Reichmann Student Learning Style Scale (GRSLSS). The instrument administered to generate the desired information composed of 60 items designed to measure learning preferences of adults. It measures cognitive and affective behaviors of students instead of perceptual. It also focuses on students interactions among their peers, the instructors, and learning in general. The six learning styles measured by the test are avoidant, collaborative, competitive, dependent, independent, and participant. The Grasha-Reichmann model focuses on students' attitudes toward learning, classroom activities, teachers, and peers rather than studying the relationships among methods, student style and achievement. In this measure, the examinees are asked to indicate their extent to which they agree or disagree with each statement and responses are scored from one (1) to five (5) and the mean score to each domain calculated.

Thinking Styles Inventory – Revised II (TSI–R2). This was the instrument employed in determining students thinking styles. It was developed by Sternberg, Wagner, and Zhang [28] [30] that aims to assess the presence of 13 thinking styles from the total of 65 items. Participants are directed to indicate how well each item describes them. Each subscale uses a seven-point Likert Scale from not at all well to extremely well. The 13 subscales are designed to assess each of the 13 thinking scales and consists of two opposite scores (internal versus external), two opposite leanings (conservative versus liberal), two levels (global versus local, three functions (legislative, executive and judicial) and four styles (monarchic, hierarchic, oligarchic and anarchic).

Student Grade Report Card. This was secured by the researchers in order to get the students' final grades

with their computed GWA, for First and Second Semester, School Year 2018 – 2019 provided by the college office administrative staff with the permission of the College Dean.

Procedure

Upon the approval of this proposed manuscript, the researchers wrote a series of request to the administrative authorities of the university to conduct the study. Likewise, the writers sought permission from the concerned dean of the College under study to involve the liberal minded students as respondents of the study. With the approval of the proposed research, the researchers secured from the Center of Research and Institutional Development (CRID) office a research form to facilitate the conduct of the study. When the said form has been accomplished, letter of permission was immediately sent from the authors to use their tests as tools in obtaining data from the respondents. When permission was granted, the researchers started to distribute the standardize questionnaires for data gathering.

The administration of the said standardized tests were done inside the classroom during the class of the researcher since she is handling both said respondents of the study and was assisted by her fellow researchers. Before the administration of the two standardized instruments, the researchers explained the nature of the study and its purpose and assured the respondents that their responses will be dealt with utmost confidentiality. Likewise, the researchers motivated the respondents to answer the questions as honesty as possible. The writers also made the respondents realized that accurate results will not only contribute to their own academic welfare but to their college and university as well. Answering the questionnaires is not timed, but the respondents were asked to give their first natural and honest answer that comes to their mind and not spend time pondering on the questions.

The respondents took atleast 30 minutes in answering the two tests and were informed that results of the study will be communicated to them upon completion of the study.

Data Analysis

The data obtained in this study were quantitatively analyzed using different statistical tools determined by the assigned statistician. The quantitative analysis included the presentation of the descriptive statistical data that were tabulated, analyzed and interpreted using the SPSS. Because of the nature of the investigation, the following statistical treatments was employed in analyzing and interpreting the research data. Frequency and percentage was used in determining the demographic

profile of the respondents, and type of learning and thinking styles. For the comparison of the three variables with the profile, independent t-test and analysis of variance (ANOVA) was employed.

Ethical Considerations

In writing this paper, the researchers strictly observed ethical considerations in seeking permission from the authorities to conduct the study. Prior to the distribution of the standardized tests and facilitation of the interview, students were debriefed as to their protection from harm and confidentiality of the data revealed by them. In doing this academic undertaking, the researchers were guided by Code of Ethics in reference to Psychological Association of the Philippines (PAP) Legal and Ethical Considerations (2017). When given the permission to facilitate the conduct of the study, informed consent was given to the respondents duly signed by them including a form on data privacy act supplied by the CRID to the researchers of the university.

Also, the said participants were properly informed as to their right to terminate their involvement anytime they wanted. In terms of their participation in the interview, respect for their privacy and privilege not to divulge any information was valued and guaranteed them that information exposed as well as their personal identity will be kept with secrecy and confidentiality.

RESULTS AND DISCUSSION

Table 1. Frequency Table for the Respondent's Demographic Profile
n = 49

Profile	F	%
Sex		
Male	12	24.5
Female	37	75.5
Program		
AB Psychology	11	22.4
AB Mass Communication	38	77.6

The respondents of this study were classified based on their demographic profile including sex and program they are enrolled in. Of the 180 respondents, twelve (12) or 24.5% are males while the remaining thirty seven (37) or 75.5% are females. With respect to their programs, eleven (11) or 22.4% are taking AB Psychology while thirty eight (38) or 77.6% are under the AB Mass Communication program.

Table 2. Student Learning Style
n = 49

Types of Learning Style	Mean	Rank
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Independent		
Avoidant	3.8048	3
Collaborative	2.7673	6
Dependent	3.9388	1
Competitive	3.8388	2
Participant	2.8020	5

Table 2 shows the learning styles of the respondents. It can be seen on the table that most respondents of this study use collaborative ($x=3.9388$), dependent ($x=3.8388$) and independent (3.8048) learning styles while the least used is the avoidant learning style with a mean of 2.7673). People who are using collaborative learning style feel that they can learn by sharing ideas and talents, by cooperating with teacher and peers and like to work with others. As such, students with a collaborative learning style believe that best learning happens through interpersonal interactions. This means that these students thrive in group discussions, group projects, and seminars. Collaborative learners are irritated when group members cannot work together without conflict, when projects are always individual, and when classes are solely lecture-based.

Individuals who are using dependent learning style are showing little intellectual curiosity and studies only what is required. They view teacher and peers as sources of structure and support and look to authority figures for specific guidelines on what to do and how to do it. On the contrary, independent learners like to think for themselves and prefer to work on their own but will listen to the ideas of others in the classroom.

The dominance of respondents using collaborative learning style maybe attributed to the large number of female respondents of this study. In a study conducted by Baneshi, et al, 2014 [2], they found out that females tend to use collaboration than males. Hamidah, Sarina, & Kamaruzama [6] [13] also showed that females have higher scores in collaborative, participative, competitive and dependent styles.

On the other hand, males have a desire to make decisions and to do things more individually and they have a less tendency toward collaboration and dependence than females and therefore, have independent styles. Also, avoidant style and competitiveness are more common among males [4].

Lastly, learners who are avoidant are found to be not enthusiastic about learning content and attending classes. They tend not to participate with students and teachers in the classroom and are uninterested and overwhelmed by what goes on in class. King (2011) as cited by Rollins

[21] in his article highlights that “There is a significant body of literature that suggests that different students have different styles of learning in which they learn more effectively.”

Table 3. Respondent’s Thinking Styles
n = 49

Types of Thinking Styles	Mean	Rank
Legislative	5.3871	2
Executive	5.1429	7
Judicial	5.2398	4
Global	4.7531	12
Local	5.0935	8
Liberal	5.3806	3
Conservative	4.9143	11
Hierarchical	5.5480	1
Monarchic	5.1541	6
Oligarchic	4.3656	13
Anarchic	5.1755	5
Internal	4.9173	10
External	5.0204	9

Table 3 shows the thinking style of the respondents of this study. Among the thirteen (13) learning styles, hierarchical ranked the first with a mean of 5.5480 followed by legislative ($x=5.3871$) and liberal ($x=5.3806$). The hierarchic individuals have a preference for tasks, projects, and situations that allow creation of a hierarchy of goals to fulfill. These individuals like to do multiple things in a given time frame, but assigns differential priorities for getting them done. Hierarchic people tend to be adaptive in many settings where it is necessary to set priorities for getting certain things done before others, or where it is necessary to decide that some things are more worthy of attention than are others. Meanwhile, the legislatively oriented people like tasks, projects, and situations that require creation, formulation, planning of ideas, strategies, products, and the like. This kind of individual likes to decide what to do and how to do it, rather than to be told. Conversely, liberal individuals have a tendency to do tasks, projects, and situations that involve unfamiliarity, going beyond existing rules or procedures, and maximization of change. Sometimes they may prefer change simply for the sake of change, even when it is not ideal. People displaying a liberal style like new challenges and thrive on ambiguity.

The aforementioned results confirmed the theory formulated by Sternberg and Zhang [28] emphasizing that the hierarchic individuals have fun of doing

multiple things in a specific time but knows which of them should be prioritized or not. The researchers based on their own perspectives agreed to this result because this is what liberal arts students are especially those in the communication field for being more effective and competitive when they engage themselves into multiple academic tasks.

On the other hand, global thinking style ranked last with the mean of 4.7531. Global individuals has a predilection for tasks, projects, and situations that require engagement with large, global, abstract ideas [17]. They like to deal with big ideas, but sometimes can lose touch with the details—the individual may see the forest but lose track of the trees. People employing this style enjoy tasks that encourage them to think about major ideas and not have to worry about details

**Table 4. General Weighted Average (GWA) of Respondents
n = 49**

	Mean
GWA	1.9485

Table 4 shows the general weighted average (GWA) of the respondents. 1.9485 is the mean GWA of the forty nine (49) respondents of this study. This means that on the average, the respondents are good in terms of their academic performance. This clearly suggest that liberal minded students have satisfactory performance in terms of their academic performance during the second semester last school year.

**Table 5. Difference between Learning Styles and Respondents' Demographic Profile
n = 49**

	Sex			Program		
	t/F	p-value	Int.	t/F	p-value	Int.
Independent	.030	.976	NS	-1.76	.085	NS
Avoidant	.159	.874	NS	1.180	.244	NS
Collaborative	.850	.400	NS	-2.25	.029	S
Dependent	.412	.682	NS	-1.48	.147	NS
Competitive	-.201	.841	NS	.954	.345	NS
Participant	.387	.701	NS	-.476	.633	NS

Table 5 shows the difference between learning styles and respondents' demographic profile. It can be said that among the six (6) learning styles, only collaborative has the significant difference with the respondents' program (p=.029). The findings of this study supports the results obtained by Baneshi, et al, 2014 [2], that although female students had higher scores in collaborative, participative, dependent and

competitive learning styles than males, this difference was not significant [22].

Moreover, previous studies done in relation to Grasha-Riechmann learning styles have shown that the difference between learning styles can be due to the content of the study. For example Mahamod, et al. [18] showed that art students have a tendency toward collaborative and participative learning, while science students prefer independent learning and Clark and Latshaw [4] also state that students of different majors have different learning styles. Actually, it seems logical to expect different learning styles in different fields. Since the cultures and personality characteristics of each society are different, and thus students of that society use unique learning styles [19].

**Table 6. Difference on Thinking Styles when compared according to Respondents' Demographic Profile
n = 49**

Thinking Styles	Sex			Program		
	t/F	p-value	Int.	t/F	p-value	Int.
Legislative	1.009	.318	NS	-.258	.797	NS
Executive	1.488	.143	NS	1.025	.311	NS
Judicial	1.741	.088	NS	.738	.464	NS
Global	.604	.549	NS	1.693	.097	NS
Local	-.815	.419	NS	-.245	.808	NS
Liberal	.806	.424	NS	-.165	.870	NS
Conservative	2.107	.040	S	.939	.353	NS
Hierarchical	1.707	.094	NS	.553	.583	NS
Monarchic	2.134	.038	S	.829	.411	NS
Oligarchic	.384	.703	NS	.713	.479	NS
Anarchic	.263	.793	NS	-.364	.717	NS
Internal	-.256	.799	NS	.547	.587	NS
External	-.295	.769	NS	.873	.387	NS

Table 6 shows the difference between different thinking styles and the respondents' demographic profile. As indicated, there is a significant difference between conservative thinking style (p=.040) and monarchic thinking style (p=.038) and the respondents' sex. The results of this study can be compared with that of the study conducted by Aljojo (2017) [1] and Shirazi [25] which compared male and female thinking styles in Saudi Arabia. The result showed a significant difference between male and female participants. Conversely, there is no significant difference between different thinking styles and the respondents' programs [4] [20].

CONCLUSION AND RECOMMENDATION

Majority of the respondents are females and Communication students with hierarchical thinking and collaborative learning styles obtaining a GWA of 1.95. Both conservative and monarchic thinking styles were

found to have significant difference in terms of sex whereas collaborative thinking style was found to be significantly different in terms of the Program.

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