
Correlation between types of Personality and Learning Styles of Selected Students of the Polytechnic University of the Philippines: Basis for Learning Enhancement Program

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Abstract:

The Polytechnic University of the Philippines, as one of the top universities in the country, has to maintain its competitive edge as regards quality instruction and excellent curricular programs. To be able to do this, the University has to continuously devise programs that would further improve its students learning skills and capabilities. This study explores the correlations between the variables: Personality and Learning Styles. These variables are connected and many respects affect the learning process. The study attempts to determine and identify the different types of personality and learning styles of selected PUP students from various programs. An appropriate sampling method will be utilized to get a good number of representative samples. The study will be using descriptive-correlational method of research to answer the research problem.

Key words: Personality Traits, Learning Styles, Polytechnic University of the Philippines, Learning Styles Inventory

Introduction

The 16 Personality Factors test of Raymond Cattell is widely used for various purposes (Cattell and Mead, 2008). Personality tests have been employed for recruitment and selection (Stabile, 2002; Rothstein and Goffine, 2006), clinical and sometimes, personal purposes (Cattell and Mead, 2008). In this study, the researchers tried to use the test to analyze the personality of select students of Polytechnic University of the Philippines and try to find out the relationship of these personality factors with the Learning Styles Inventory of Kolb's as extended by Peter Honey and Alan Mumford (Honey and Mumford, 2006) with an end view of coming up with a Basic Enhancement Program for the University. It is stressed that the basic Learning Style Inventory of Kolb's remains to be the instrument that was employed by this research (Kolb, 1984; Kolb and Kolb, 2005).

Honey and Mumford adapted Kolb's learning styles. The two development specialists used four-way classification that in more ways resembles that of Kolb's. These categories are Activist, Reflector, Theorist, and Pragmatist.

In this present study, as to personality traits, the researchers likewise classified the 16 personality factors of Cattell into four categories: Social, Personal, Mental and Emotional. Social Traits are those that have something to do with the individual relationship with the others. Subsumed under social are the following: Warmth, Dominance, Vigilance, Liveliness and Social Boldness. Personal Traits are those that have to do with one's relationship and attitude towards the self such as Privateness, Openness to Change, Apprehension, Self Reliance, Perfectionism, and Tension. Emotional Traits pertain to those that involve the emotions such as Emotional Stability, and Sensitivity. Mental Traits are those that involve thinking processes such as Reasoning, Rule Consciousness, and Abstractedness.

To date, studies about personality traits and their relationship with learning styles include the following. Threeton and Walter (2009) conducted a study that determines the relationship between personality and learning style. The study is focused on technical and vocational education. The study uses Kolb's learning styles classification and it also uses a different set of personality traits. Another study is the one conducted by Ibrahimoglu, Unaldi, Samancioglu and Baglibel (2013) where a cluster analysis was used in trying to determine the relationship between personality and learning styles. The study also classified personality traits into two scales--- Low and High. These scales will be used in the present study in order to simplify the analysis on the personality traits of the respondents.

This study explores the correlations between the variables: Personality and Learning Styles. These variables are connected and many respects affect the learning process.

The study attempts to determine and identify the different types of personality and learning styles of selected PUP students from various courses. An appropriate sampling method will be utilized to get a good number of representative samples.

Research Locale

The Polytechnic University of the Philippines is the research locale. This is a state university in the Philippines with approximately seventy thousand students. It has around twenty two (22) campuses and branches scattered around the Luzon Island--the largest island of the archipelago. Its main campus is located at the center of the country's capital--Manila. Some of its campuses are strategically placed in remote areas where college education delivery is nearly impossible and/or difficult such as in the Municipalities of Mulanay, Lopez, and

Unisan in the Quezon Province; Bansud in Mindoro Province, and others.

Having been established in 1904, the University is one of the oldest universities in the Philippines. It already reached a century mark. Though the university is consistently performing above average in various national board and licensure examinations and recognized as one of the top universities in the country, the university still continuously seeks ways on how to improve various areas of instructions, research, extension, administration and others.

Being a university that is funded by the national government of the Philippines, it is expected to produce quality graduates who can contribute immensely in nation building and development.

Methodology

Subjects

A sample of 100 students from different Colleges of the Polytechnic University of the Philippines (with age ranging from 17 to 19) participated in the study. Students who were not able to take either of the tests (Kolb's Learning Styles and Cattell's 16-Factor personality Test) were removed from the study, leaving a total of 95 students. Among this number, there were 27 boys and the rest were girls.

Design and Procedure

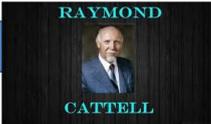
The 95 subjects took and completed two standardized tests, the 16-Factor Personality test of Cattell and the Learning Styles Inventory of Kolb as extended by Honey and Mumford. The tests were taken between the periods of March 15 and April 17, 2015. When all the completed tests were collected, the researchers tallied the data on excel sheets for easy reference.

For the Personality Test, the researchers classified the 16 personality factors into four categories: Social, Personal, Emotional, and Mental. For each category, specific personality factors were subsumed under. Hereunder is the simple matrix for the categories.

Matrix 1: Four Category Traits of Personality Factors

RAYMOND CATTEL 16-PERSONALITY TEST			
Variable	Low scores	High scores	
Factor	Descriptors		
A	Warmth	Reserved	vs. Outgoing
B	Reasoning	Less Intelligent	vs. More Intelligent
C	Emotional Stability	Affected by feelings	vs. Emotionally stable
E	Dominance	Humble	vs. Assertive
F	Liveliness	Sober	vs. Happy-go-lucky
G	Rule Consciousness	Expedient	vs. Conscientious
H	Social Boldness	Shy	vs. Venturesome
I	Sensibility	Tough-minded	vs. Tender-minded
L	Vigilance	Trusting	vs. Suspicious
M	Abstractedness	Practical	vs. Imaginative
N	Privateness	Straightforward	vs. Shrewd
O	Apprehension	Self-Assured	vs. Apprehensive
Q1	Openness to Change	Conservative	vs. Experimenting
Q2	Self-Reliance	Group-dependent	vs. Self-sufficient
Q3	Perfectionism	Self-conflict	vs. Self-control
Q4	Tension	Relaxed	vs. Tense

Low - 0.1-1.99
High - 2.0 - 4.0

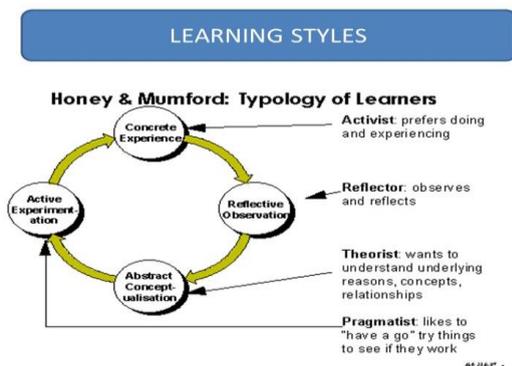


Each of the subjects is given a test where a 0-4 scoring for every personality factor is provided. When all the personality tests were collected and tallied, the scores for each factor were sum up and scaled into High (2.0-4.0) and Low (0.1-1.99). Then a simple frequency distribution and corresponding percentage is computed. The researchers also generated mean score for every category of personality factors.

For the Learning Style Inventory, the subjects were provided with Learning Styles Questionnaire which has 80-items. There are specific items for specific learning style category. In this study, the categories of Kolb were re-classified into Activist, Theorist, Reflector and Pragmatist (Honey and Mumford, 2006). These categories resemble that of Kolb's but they are more comprehensible and easy to understand on

surface. The matrix below provides the general descriptions of these learning style categories.

Matrix 2: Learning Styles—General Descriptions (Honey and Mumford, 2006)



<p>Activists</p>	<p>Activists involve themselves fully and without bias in new experiences. They enjoy the here and now and are happy to be dominated by immediate experiences. They are open-minded, not skeptical, and this tends to make them enthusiastic about anything new. Their philosophy is: `ill try anything once`. They tend to act first and consider the consequences afterwards. Their days are filled with activity. They tackle problems by brainstorming. As soon as the excitement from one activity has died down they are busy looking for the next. They tend to thrive on the challenge of new experiences but are bored with implementation and longer term consolidation. They are gregarious people constantly involving themselves with others but, in doing so, they seek to centre all activities around themselves.</p>
<p>Reflectors</p>	<p>Reflectors like to stand back and ponder experiences and observe them from many different perspectives. They collect data, both first hand and from others, and prefer to think about it thoroughly before coming to any conclusion. The thorough collection and analysis of data about experiences and events is what counts so they tend to postpone reaching definitive conclusions for as long as possible. Their philosophy is to be cautious. They are</p>

	thoughtful people who like to consider all possible angles and implications before making a move. They prefer to take a back seat in meetings and discussions. They enjoy observing other people in action. They listen to others and get the drift of the discussion before making their own points. They tend to adopt a low profile and have a slightly distant, tolerant unruffled air about them. When they act it is part of a wide picture which includes the past as well as the present and others` observations as well as their own.
Theorists	Theorists adapt and integrate observations into complex but logically sound theories. They think problems through in a vertical, step by step, logical way. They assimilate disparate facts into coherent theories. They tend to be perfectionists who wont rest easy things are tidy and fit into a rational scheme. They like to analyse and synthesize. They are keen on basic assumptions, principles, theories, models and systems thinking. They philosophy prizes rationality and logic. (Shortened)
Pragmatists	Pragmatists are keen on trying out ideas, theories and techniques to see if they work in practice. They positively search out new ideas and take the first opportunity to experiment with applications. They are the sort of people who return from management courses brimming with new ideas that they want to try out in practice. They like to get on with things and act quickly and confidently on ideas that attract them. They tend to be impatient with ruminating and open-ended discussions. They are essentially practical, down to earth people who like making practical decisions and solving problems. They respond to problems and opportunities as a challenge. Their philosophy is: `there is always a better way` and `if it works its good`.

A simple frequency and percentage distribution was used to present the learning styles of the subjects. After the subject completed the Learning Style Inventory, what is only registered is the category that earned the highest score. The individual scores generated for each category of learning styles were correlated against the categories of personality factors. For brevity, the researchers decided not to present all other tables

in this paper. The only tables that are herewith presented are the correlation results as computed using Pearson correlation.

To get whether or not there is a significant relationship between the variables (personality and learning styles), the researchers used the Pearson Correlation.

The formula is hereunder illustrated.

$$r = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{n}}{\sqrt{\left(\sum X^2 - \frac{(\sum X)^2}{n}\right) \left(\sum Y^2 - \frac{(\sum Y)^2}{n}\right)}}$$

Results and Discussion

Inasmuch as there are 95 subjects in the research, the researchers decided to correlate the responses for each test according to the following variables: Personality Factors--- Personal Traits, Social Traits, Mental Traits and Emotional Traits and the other variable is the Learning Styles--- Reflectors, Activists, Theorists, and Pragmatists. The succeeding tables present the computed results of the correlation.

TABLE 1: Pearson correlation Results for Social Traits & Learning Styles

Learning Styles	Pearson Correlation Results/ (r)	Verbal Description
Activists	-0.0475	Negative Correlation
Reflectors	-0.1106	Negative Correlation
Theorists	-0.1101	Negative Correlation
Pragmatists	-0.0686	Negative Correlation

Note: The correlation result is analyzed according to -1 to 1 scale, where 1 is a perfectly positive correlation.

NO CORRELATION
(SOCIAL TRAITS:
KOLB'S LEARNING
STYLE INVENTORY)

The above Table clearly shows no positive correlation between the responses for the social traits of the 16 factor personality test and the scores generated in Kolb's Learning Styles Inventory as Extended by Honey and Mumford (2006). The result is not consistent with the results that were generated with the study of Fariba (2013) where most of the correlation coefficients were positive except neuroticism, which generated a negative correlation.

TABLE 2: Pearson correlation Results for Mental Traits & Learning Styles

Learning Styles	Pearson Correlation Results/ (r)	Verbal Description
Activists	-0.1428	Negative Correlation
Reflectors	-0.0611	Negative Correlation
Theorists	-0.1107	Negative Correlation
Pragmatists	-0.0001	Negative Correlation

Note: Pragmatist near positive
 +Indication that PUP student can easily strike a **balance between mental functions and real life practice**

NO CORRELATION
 (MENTAL TRAITS:
 KOLB'S LEARNING
 STYLE INVENTORY)

Graf et.al (2006) study seemed to be in contrast with the results of the above correlation where in the said study the personality trait is positively correlated with cognitive traits. In the present study, all the above data show that there are no correlations between the learning styles and the mental traits of the individual learners. The seeming contrast can perhaps be attributed to the difference between the tests conducted to the subjects.

Table 2 shows, though all of the correlation coefficients(r) appear to be negative, the correlation between Mental Trait and Pragmatists is somewhere near the positive scale (r=-0.0001). This is a positive indication. This means that Polytechnic University Students can easily strike a balance between mental functions and real life practice.

TABLE 3: Pearson correlation Results for Emotional Traits & Learning Styles

Learning Styles	Pearson Correlation Results/ (r)	Verbal Description
Activists	0.0343	Positive Correlation
Reflectors	-0.1641	Negative Correlation
Theorists	-0.0670	Negative Correlation
Pragmatists	-0.2594	Negative Correlation

+ CORRELATION
(EMOTIONAL TRAITS & ACTIVISTS)

“Tackle problems by brainstorming” and their Philosophy “Ill try anything once”
“Learners seek center all activities around themselves”

Table 3 stated that the correlation coefficient (r) between emotional traits and learning styles. The results show that there is only one correlation which turned out to be positive, which is the correlation between emotional trait and activists (r=0.0343). All the other results are negative (r=-0.1641 for Reflectors; -0.0670 for Theorists; and -0.2594 for Pragmatists). This result is not the as that shown by the study of Aliakbari and Abol (2013) where the emotional intelligence is shown to have significant relationship with learning styles.

TABLE 4: Pearson correlation Results for Personal Traits & Learning Styles

Learning Styles	Pearson Correlation Results/ (r)	Verbal Description
Activists	0.1173	Positive Correlation
Reflectors	0.0197	Positive Correlation
Theorists	-0.0894	Negative Correlation
Pragmatists	0.1650	Positive Correlation

+ CORRELATION
(PERSONAL TRAITS & ACTIVISTS, REFLECTORS PRAGMATISTS)

Note: Pragmatist near positive
+Indication that PUP student can easily strike a **balance** between *mental functions and real life practice*

Table 4 presents very different results as compared with the other correlations in this study. In this table, where the

personal traits were correlated with learning styles, majority of the correlations turned out to be positive ($r=0.1173$ for Activists; $r=0.0197$ for Reflectors; and $r=0.1650$ for Pragmatists).

Conclusion

The study shows that in all the correlations that were done between specific learning styles and personality factors, most of the results generated negative correlation except some few. Only four correlations turned out to be positive. These are when emotional traits are correlated with activists ($r= 0.0343$); and when personal traits are correlated with activists ($r= 0.1173$), reflectors ($r=0.0197$), and pragmatists ($r=0.1650$).

The results may seem to be in contrast with previous studies in different countries, however, many factors played in. First, most of the previous studies employed different personality tests. Second, the subjects are different. The research locale is also different.

If these results are to be used to develop a basic enhancement program for the Polytechnic University of the Philippines, the researchers hereby suggest that programs and delivery of lessons should be more focused on the personality of the learners that has to do with their personal traits rather than the other traits such as emotional traits, social traits, and mental traits.

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