

Results of the Intervention Measures to Improve Trustworthiness of Business Students: The Progressing, the Neutralizing and the Declining

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Abstract: Not all-academic interventions yield the same effect to student recipient. Nevertheless, business educators continue to provide intervention program without examining its effect on students. This study tries to measure the effectiveness of an intervention measure among third-year students to improve their level of trustworthiness indicated in the result of the 16 Personality Factor Test (PFT). The intervention measure was embedded in their Human Behavior in Organization course, enriching the subject with cases and activities on trust as an important element in business organization, at the same time, orienting the faculty on the importance of personality on student's future career. The study reveals that there is a significant improvement on the trust among students, those enrolled in the second term, second semester have a higher post-test performance than other periods. Due to student's different learning and faculty teaching style result significantly varies. There are three clusters of students those who respond positively in the intervention measure, those that remained neutral and those that respond negatively. Students in the first cluster, the progressing, grasp the importance of trustworthiness in business. The second cluster, the neutrals, demonstrates trait optimism; these students try to maintain their status quo. The third cluster, the decliners, low self-efficacy attributes to the negative response.

Keywords: intervention measures, human behavior in organization course, business education, cluster analysis, and discriminant analysis.

I. INTRODUCTION

One scientific measure of a normal person that can predict a healthy range of life behavior is the 16 Personality Factor Tests (16PFT). This test measures the basic structure of human personality (R. B. Cattell & Eber, 1950). In the study of Cattell, he pronounced that all individuals possess the 16-personality factor but with a varying degree level (McCrae & Costa Jr, 2003). Cattell produces a questionnaire that measures the degree of the 16-personality factor from individuals, and it is extensively used today in business and employment (Salgado, 2003).

The 16 personality dimension according to Castell are abstractedness: Imaginative versus practical; apprehension: Worried versus confident; dominance: Forceful versus submissive; emotional stability: Calm versus high strung; liveliness: Spontaneous versus restrained; openness to Change: Flexible versus attached to the familiar;

perfectionism: Controlled versus undisciplined; privateness: Discreet versus open; reasoning: Abstract versus concrete; rule Consciousness: Conforming versus non-conforming; self-Reliance: Self-sufficient versus dependent; sensitivity: Tender-hearted versus tough-minded; social Boldness: Uninhibited versus shy; tension: Inpatient versus relaxed; vigilance: Suspicious versus trusting and Warmth: Outgoing versus reserved (H. E. P. Cattell & Mead, 2008).

In a separate investigation using the 16PFT among senior executive the relationship between emotional intelligence (EI), personality, cognitive intelligence, and leadership effectiveness, reveal that high level of association existed between EI and leadership effectiveness (Rosete & Ciarrochi, 2005). In a leader-subordinate relationship using the 16PFT, reveal that a similar personality level of leader and subordinate increases the level of subordinate job satisfaction. The research establishes that the relationship between congruence and performance is inherent in the type of personality of the leader that is compatible with their subordinates (Ahmad, 2008).

There are different uses of 16PFT in the academe; one uses the career exploration of students based on the result of the 16PFT. In that research, there are 420 first-year medical students asked to take the 16PFT to determine the relationship of the test result with their career specialty choice. The result of the study predicted in 43 to 60 percent of the time the student's specialty choice based on the 16PFT result (Hartung, Borges, & Jones, 2005).

Aside from the traditional admission: undergraduate grades and interview result, a veterinary school took into consideration the relationship between personality and academic success. The school reconsiders the third requirement for admission, the 16PFT. Believing that the 16PFT have a direct relationship with academic success, the school commissioned a study. Veterinary students entering into their second year of the six-year course requires them to take the 16PFT, their study confirms the associations of the student's previous academic performance, the result of the interview and the 16PFT. The 16PFT confirms that students who are conscientious, emotionally stable, socially adept, self-disciplined, practical rather than imaginative, and relaxed

rather than anxious tend to be more academically successful. In the selection of students, the study suggests, it is worthwhile to consider requiring them to take a personality test in the admission process. This desired personality, the study concluded, will increase the likelihood of academic success and at the same time beneficial in the academic management of students (van der Walt & Pickworth, 2007).

The 16 PFT conducted in the Philippines demonstrates a unique result, it reflects the cultural setting in the country and at the same time an emerging cultural generality with the rest of the world cultures (Church, 1987). In the study of the leadership and aptitude of cadets in the Philippine Military Academy (PMA) using the 16 PFT, reveal that there is a low but significant relationship between the result of the 16PFT and the cadet's aptitude. Surprisingly, one area of the 16PFT, trustworthiness, does not have any influence on the aptitude rating. Finally, the study was able to establish that the result of the 16PFT is not a reliable criterion to predict the aptitude of the cadets (Diaz, 1995). Further research needs to confirm the relationship between students' personality and academic performance, which may be central to a more effective teaching strategy (Komarraju & Karau, 2005).

The University Guidance and Testing Center annually conducts a test on 16-personality factor among the third year students of the University of Mindanao. The objective is to identify and address areas of weaknesses through academic interventions.

II. METHOD

The study uses the result of the 16PFT administered to third-year students enrolled for the school year 2012-2013 from the Guidance and Testing Center as a basis to conduct an intervention measure. The result of the test indicates that BSBA third-year students' weakness is their vigilance, which leads to suspicious, untrusting, skeptical and wary behavior. The Director of GTC conveys the result to the College Academic Council (CAC) for intervention measures in trying to improve their negative behavior. Similar to the study on integrity on classroom and workplace the CAC improve and revise the course syllabus on Human Behavior in Organization with ethics (HR 315), focusing on trustworthiness as a virtue important in an organization which, serve as an intervention measure to improve the weakness of students (Nonis & Swift, 2001). An orientation to the faculty emphasized that the basis of integrating the topics of trustworthiness in the HR 315 class, demonstrates that a student's objective and subjective career success correlates positively with the amount of mentoring received. At the same time, encouraging the faculty to develop the characteristics of openness of the mentor has positive consequences on the career of the student. It provides an implication on the positive career development strategies in an organization (Bozionelos, 2004). The faculty administers the standardized trustworthiness instrument pre and post-test. The first six questions came from the result of the studies of Yamagishi's

(1986) Trust Scale; (Levi & Stoker, 2000); (Kramer, 1999). The study used the 6-item questionnaire of general statements which measure student's beliefs about honesty and trustworthiness of others. The next 5-item questionnaire measured the student's general level of trust toward other people. It is specifically designed to measure two of the main factors that form general trust: (1) belief that other people are honest and (2) belief that trusting others is risky. The items from this scale come partially from Yamagishi and Sato's (1986) Fear scale and partially from Yamagishi and Sato's (1986) trust scale. The last part of the instrument used the 3-item questionnaire designed to measure individuals' general level of trust toward other people. The three items were first used in the 1964 post-election study conducted by the Survey Research Center and have continued to be used in national surveys since. Each of the three items provides a dichotomous choice. One of the two choices is the high trust response; the other is considered the low trust response. Later, gathering the result, the period the faculty handling the course and subjecting these data to statistical analysis verifies the success of the intervention measures.

There were 937 students took the course and ten teachers teaching the subject, using the t-test, their performance in the pre and post-tests were compared to determine if significant improvement exist. Using the analysis of variance (ANOVA) the performance of the faculty was compared by the performance of the classes they handled and the period in the school year classes held. Cluster analysis was used to determine the significant groupings of students in the pre-test and post-test. Afterward, the discriminate analysis was used to predict the group membership of the student's based faculty, period, pre and post-test.

III. RESULTS AND DISCUSSIONS

Table 1 shows that there is a significant improvement between the pre and post-test trustworthiness of students enrolled in HR 315. The intervention measure of the college through the revision of the syllabus to enrich the course content and faculty class performance significantly contributed to a significant improvement in students' trustworthiness. The average pre and post-test trustworthiness increase from 79.43 to 81.40.

Kind	Mean	N	t	Sig. (2-tailed)
PRE-TEST	79.43	937	-4.439	0
POST-TEST	81.40	937		

Grouping students according to the faculty who handles the subject table 2 shows significant differences. The highest average score in the pre-test is from the class of Dr. Montañó with an average pre-test performance of 89.56, the lowest pre-test performance comes from the class of Prof. Ortega, with an average grade of 70. The classes of Prof. Ortega, Prof. Lopez and Prof. Sablay, the average pre-test

performance of their students were below 80. The F value of 25.616 and a p-value of 0, show that there is a significant difference in their pre-test result. In the post-test, the class of Prof. Suyman has the highest post-test average grade of 88.42, Dr. Chico class average of 87.93 follows. Although the post-test result shows a significantly higher average than the pre-test, there is more faculty with a below 80 average post-test class performance compare to the pre-test. Prof. Ortega has

the lowest post-test performance with an average of 68, Prof. Trinidad, 72, Prof. Lopez, 77 and Prof. Samson 79. It is important to take note that the post-test class performance of only 50% of the faculty improves from the pre-test. The F value of 45.995 and a p-value of 0, demonstrates that there is a significant difference in the level of post-test performance among classes when grouped according to the faculty.

Table 2 : Significant difference between grouping students according to the faculty handling the subject

		Sum of Squares	df	Mean Square	F	Sig.
PRE-TEST	Between Groups	25288	9	2809.778	25.616	0
	Within Groups	101679.5	927	109.687		
	Total	126967.5	936			
POST-TEST	Between Groups	45327.44	9	5036.382	45.995	0
	Within Groups	101506	927	109.499		
	Total	146833.4	936			

Table 3 shows that there is a significant difference in the performance of students in post-test when grouped according to the period. It shows that students enrolled in the second-semester the second term perform significantly better with a p-value of 0 over students enrolled in the first three periods. Students enrolled in the first semester; the first term

performs significantly better with a p-value of 0.001 over students enrolled in first-semester second term and second semester, the second term with a p-value of 0. Students enrolled in first-semester the second term perform significantly lower with a p-value of 0 over the other three periods.

Table 3: Significant difference in the performance of students in post-test grouped according to the period

Dependent Variable	(I) PERIOD	(J) PERIOD	Mean Difference (I-J)	Std. Error	Sig.
POST-TEST	1st sem. 1st term	1st sem. 2nd term	3.8916	0.9507	0.001
		2nd sem. 1st term	7.1977	1.1294	0
		2nd sem. 2nd term	-8.4862	1.3128	0
	1st sem. 2nd term	2nd sem. 2nd term	-12.3777	1.4239	0
		2nd sem. 2nd term	-15.6838	1.5489	0
	2nd sem. 2nd term	2nd sem. 1st term	15.6838	1.5489	0

In table 4 of the discriminant analysis, the Wilk's Lambda p-value of 0 for both the test of function from one through two and two is significant, inspecting the Classification Result demonstrates that the overall ability of the discriminant function to predict student membership is 90 percent. The result of the Test of Equality of Group Means with a p-value of less than 0.05 and a Wilk's Lambda greater than 0.30, demonstrates which variable differs on a univariate

basis and helps predict students' membership pre-test grades, post-test grades period subject taken and faculty. There were only two variables, pre, and post-test from the multivariate perspective in the Structure Matrix with a function higher than 0.30 it demonstrates that the period subject taken and the faculty that handles the course does not significantly matter in the grouping of students in the three clusters.

	Wilks' Lambda	F	df1	df2	Sig.	Function	Function	Wilks' Lambda	Chi-square	Sig.
FIRST	0.377	6.252	2	934	0	0.974	0.097	0.214	1436.7	0
FINAL	0.222	3.132	2	934	0.044	-0.035	0.03	0.586	498.54	0
PERIOD	0.214	340.071	2	934	0	0.225	0.952			
FACULTY	0.997	770.719	2	934	0	-0.044	-0.119			
90.3% of original grouped cases correctly classified										

The approaches to quality education in the case of an intervention measure that tries to enhance the trustworthiness of students in the organization suggest an alternative approach in business education, which shift the focus of quality to accountability to character improvement. Although there are limits and boundaries of this intervention measure, quality improvement initiated in the course encourage the exploration and meaning of character improvement (Houston, 2008).

The significant differences among classes in HR 315 when grouped according to the faculty handling the class shows that the faculty uses a variety of teaching style, which affects the student learning. Since there are, several techniques in the delivery of the HR 315 course, through experiential learning technique can improve higher education. The effectiveness of this technique also depends on the students' learning style (Kolb & Kolb, 2005). Over several years, it was evident that students learn in different ways, one learning style does not apply to all students (Hawk & Shah, 2007). Therefore, it leaves the faculty in a situation where they feel ineffective inside the classroom. However, research identifies the attributes of an outstanding professor based on students criteria do not consider adaptability of faculty to their learning style. Instead, the characteristics students' looks for an excellent professor are rapport, fairness, knowledge, credibility, organization, and preparation (Faranda & Clarke, 2004).

Students' perception of quality teaching does not come from the ability of faculty to adopt a teaching style that is completely compatible with their learning style. It comes from the perception that the teacher is knowledgeable on the subject matter, communicate well and establish rapport, these are all about the personality of the teacher, called "hygiene factor." However, even if the teacher met the "hygiene factor," if Meta programs preference were not met, it leaves the students dissatisfied. The effectiveness of faculty and learning occurred when Meta programs of students were met (Lunenburg & Ornstein, 2011). Even though faculty in business administration has different teaching style and students have different learning style, the effective technique is for the faculty to adjust their teaching techniques in a different situation (Rodrigues, 2004). Aside from different learning style, business faculty also has to face the different level of motivation and attitude of students. To be effective, they have to understand these differences. The average post-

test trustworthiness rating of students in HR 315 demonstrates that the business faculty was able to address the intellectual development level of the students (Felder & Brent, 2005) competently.

The different trustworthiness level of students in the pre and post-test convey a significant difference among faculty in diagnosing their students through the process of assessment towards formulating the strategy and at the same time enhancing relationships (Seligman, 2004). Classroom management facilitates the intervention measure; however, it remains one of the greatest challenges among faculty. Teacher's experience level, classroom management orientations are attributes that impact the effectiveness of any intervention measure (Ritter & Hancock, 2007).

Student's performance when grouped according to the period the course demonstrates a significant difference. The design of the college curriculum is to place courses in a manner that tries to maximize the learning of the students in different periods (Wirth & Perkins, 2008). There are instances that students fall behind or want to get ahead will not follow the flow of curriculum provided they adhere to the pre-requisite and co-requisite of the course. The regular offering of HR 315 is in the second semester and students enrolled in the regular period have significantly higher post-test compared to other periods. Students enrolled in the regular period are more thorough careful and driven to accomplish their task better, they may be vigilant which result in a better post-test but their time management ability moderates this relationship (MacCann, Fogarty, & Roberts, 2012)

The three clusters of students, the first cluster with failed pre and passed post-test and the second cluster with passed pre and passed post-test, while the third cluster has passed pre-test but failed post-test demonstrates the different effects on students. Students respond significantly different in the new approach of teaching HR 315 course with emphasis on non-monetary value in the organization. The first clusters of students were able to understand the four principal objectives: (1) target learning outcome; (2) learning environment created; (3) employed learning process and goals and (4) roles of students in learning. The students in this cluster understand the accountabilities and responsibilities needed to do in the workplace (Sims & Felton Jr, 2006). In the same manner, students in the first cluster grasp the social

impact of business operation, in the context of the trustworthiness level. Students' awareness increases if they are aware of corporate shortcomings. Education has a role in modifying this awareness through the different role that students took an interest. The intervention measure to increase trustworthiness among business students enriches the vision for the corporate social responsibility of future business leaders (Sleeper, Schneider, Weber, & Weber, 2006).

The first cluster of students can identify the different practical ways in which academic settings apply in a real business setting, making business education more relevant to their learning (Rynes, 2007). The non-cognitive element in the course plays an important role in the academic success of students. The excellent performance of students in the first cluster demonstrated through an impressive performance in the post-test reveals the relationship between a personality trait and academic achievement of students (Trapmann, Hell, Hirn, & Schuler, 2007). Aside from the non-cognitive element the 16 personality factor is also highly associated with psychomotor skills of students (Manuel, Borges, & Gerzina, 2005). The result demonstrates a strong association between personality and intelligence. Although students' belonging in the first cluster is homogeneous, their performance may significantly differ in the real world setting (Chamorro-Premuzic & Furhnam, 2006).

On the other hand, the result does not agree with the findings of (O'Connor & Little, 2003), in their study, the emotional intelligence (EI) is not a strong predictor of academic achievement or the personality dimension of college students. Their study added that the Students Bar on Emotional Quotient Inventory (EQi-self report measures) associate significantly with personality dimension. This means college students believe that EI is strongly associated with personality dimension.

The second cluster of student passed the pre-test and post-test, although there was an increase in their grades. It was not as impressive as the first cluster of students. The effect of the intervention measure is neutral among these students. Students in the second cluster demonstrate trait optimism where students may be amenable to intervention but do not expect any other problem that might arise to challenge their learning (McLaughlin, Moutray, & Muldoon, 2008). The performance of the student shown in their post-test and the result of their 16 PFT can predict their performance especially in work involving psychomotor skills. Students in the second cluster did not benefit much from the intervention measure due to a very minimal increase in their post-test (Tan, Meredith, & McKenna, 2004).

The third cluster of students passed in the pre-test but failed in the post-test. It shows that intervention work in the opposite direction, instead of improving their trustworthiness the result was deterioration on their trustworthiness. The first possible reason lies in the standardized trustworthiness questionnaire may have impeded the abilities of these students who took HR 315. The lacks of mentoring and encouraging

support to these students from faculty to look at the intervention in a different view may affect their performance (Good, Aronson, & Inzlicht, 2003). Second, self-efficacy of students in performing an academic task may be the reason for their failure in the post-test, researchers believe that it plays a role in predicting the success in college. The timing of the intervention measure and the criteria used also affects the self-efficacy of students (Gore, 2006). Third, it is study motivation and study skill that has the strongest relationship with students' academic performance, although personality construct is only moderately associated (Credé, & Kuncel, 2008).

IV. CONCLUSIONS AND RECOMMENDATIONS

The intervention measure enhancing the trust of students was effective. However, college students who follow the flow of their curriculum appear to be more conscientious and better in time management. Faculty differs in their approach in implementing the intervention measure, their teaching and classroom management style impact student's performance. There are three clusters of students those who respond positively in the intervention measure, those that remained neutral and those that respond negatively. Students in the first cluster, the progressing, grasp the importance of trustworthiness in business. The second cluster, the neutrals, demonstrates trait optimism; these students try to maintain their status quo. The third cluster, the decliners, low self-efficacy attributes to the negative response.

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