

# Creative Problem Solving of HEI Academic Managers: Implications for Management Intervention Program

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## ABSTRACT

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*This study confirmed that Higher Education Institutions (HEIs) in Asia and the Pacific was convergent that promote routinized capacities and not on indigenous knowledge. This is a descriptive research survey that determines the differences of Basadur's Creative Problem Solving (CPS) Styles (generator, conceptualizer, optimizer and implementer) by personal profile (age, gender, highest educational attainment, marital status and years of experience in the HEI). Centro Escolar University (CEU) academic managers for SY 2013-2014 participated in this study. Frequency, percentage, ANOVA, t-test were utilized in analyzing the data.*

*Findings indicated that CEU academic managers were distinct and unique convergent (optimizers and implementers) and not divergent (generator and conceptualizer) academicians regardless of personal profile. They are efficient in implementation of organizational objectives efficiently without considering the human ingenious works. The implications were identified and particular intervention training program for employee productivity was designed for management consideration. It is also recommended to increase the number of divergent academic managers in considering indigenous knowledge for sustaining global poverty reduction.*

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## Introduction

Higher education institutions (HEIs) in Asia and the Pacific promote routinized capacities and focus on traditional model of "Knowledge versus Skills" and not on

indigenous knowledge (Sarvi & Pillay, 2015). In Asian development countries (ADCs), long-term education strategies are required in competitive driven reforms in education system to sustain poverty reduction (Dupriez, 2003). HEIs require

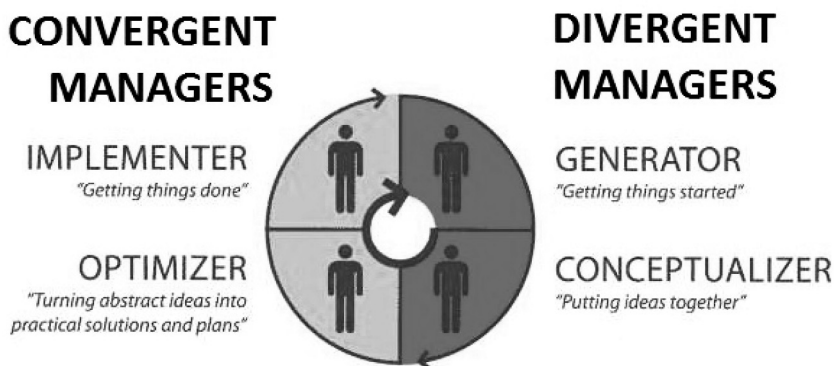


Figure 1: Basadur CPS Styles

divergent academic managers to produce indigenous knowledge for improvements and not convergent academic managers who focused on academic internal efficiency (Asian Development Bank, 2012).

Creativity in HEIs is defined as an attitude of being flexible in looking possible changes; a process of altering or refining of indigenous works or ability to combine different ideas, change existing creation or reapplying ideas in other useful things (Harris, 2012) that can be put into action (DuBrin, 2012). It is not only an option to select and choose from existing alternatives but it is an essential element for organizational survival (Bateman & Snell, 2011) and substantial in the organization's growth and competitiveness (Langford, 2011). As the highest level of intelligence (Dance, 2008), creativity does not only recall what it is in the past but it also extends to creation of new knowledge; the actualization that represents the need for knowledge to improve oneself. HEI's creativity is a considered as capital good (Florida, 2005). Aside from market, intellectual property, human centered, and infrastructure assets (Brooking, 1998) which can be measured in terms of uniqueness of concepts, alternatives or solution (DuBrin, 2012).

### *Types of Creative Persons*

There are two types of creative persons; The divergent and convergent people. They require inertia of intuition to break imitation mode and human spirit to connect energy in a state of enjoyment (Naiman, 1998). The inertia of intuition senses and responds to the changing organizational ecosystem. Divergent people think broadly and accommodate number of possibilities to widen up the choices while convergent people narrow down the choices and select the best alternative for improvement (Divergence and Convergence, n.d.). Divergent people are usually supposing on new ways of thinking, wandering of new territory, associating new linkages, morphing various situations and inquiring to unravel mystery.

From the concept of Min Basadur, the Creative Problem Solving (CPS) styles are composed of divergent (generators and conceptualizers) and convergent (optimizers and implementers) people. For Roger von Oech, he called these actors as explorer, artist, judge and warrior of problem solving (Brooking, 1998). The CPS styles are presented in Figure 1.

Generators as divergent are explorers who look for information that is beyond the usual patterns. Conceptualizers as divergent are artists who design new ideas

by answering “what if and how if”. They look backward to see the hidden analogies or remove some ideas to see the main issue of the problem. Optimizers as convergent are judges who decide if idea is worth implementing. They examine if the time is right and look for things which may be wrong. Implementers as convergent are warriors who carry the idea into action and do whatever is necessary to reach the objective.

An innovative HEI environment embraces the principle of “sense and respond” that emphasizes flexibility and responsiveness and relies on distributed decision making and responds independently to customer request and changing conditions within the context established by the company. It does not rely of “make and sell” that emphasizes efficiency and predictability only and employs centralized operational decision making and cascades procedural instructions down to the staff that will carry them out (Haeckel, 1999). It is composed of problem solvers who are creative to sense and response but no one from them is considered more creative than any other. The goal of the HEI is to balance the innovativeness of the academic managers by capitalizing individual preferred orientation and making work satisfying and tapping all resources in all creativity stages to help individual, team, or organization complete the innovation process (Basadur & Gelade, 2003).

#### *Impact of Imbalance Creativeness in HEIs*

If the HEIs are focused on short-term results, they have overloaded convergent academic managers that composed of optimizers and implementers. They can deliver their current products and services efficiently but weak in long-term planning and product development. Rushing in to solve problems might result to failed solutions without pausing to conduct adequate fact finding and problem definition. On the other side, if the HEIs are focused on long-term

results, they have overloaded divergent academic managers composed of generators and conceptualizers. They can continually find good problems to solve and great ideas for products and processes to be developed but there will be no assurance that this will be implemented (Basadur & Gelade, 2003).

The imbalance in the innovativeness of HEI academic managers develops creativity crisis on problem solving that requires a process to make the organization innovative and ideas to be put into action (DuBrin, 2012). HEIs had relevant and responsive curriculum however they need to be enriched and updated (Sadural, 2010). Forming a quality circle, engaging top management in quality actions, forming partnerships with suppliers and setting quality related goals and determining customer’s needs and expectations (Martinez, 2014) can be used in diverging of ideas.

#### **Purpose of Research**

This research examines the creativity styles of HEI academic managers to find out the creativity crisis in diverging and converging that requires to be enriched. Through some alterations and refinements (Harris, 2012) in knowledge management using an in-depth seminar and focused group discussion (Albufera, 2012), the HEIs in the Philippines can be aligned in the international competency standards (Gamez & Milagros 2014). (Check the surname carefully.)

#### **Methodology**

It is a descriptive survey research that identifies and characterizes the two independent variables of this study: CPS styles (generator, conceptualizer, optimizer and implementer) and personal profile (age, gender, highest educational attainment, marital status and years of experience in the HEI). Based on the findings, the implication

which is dependent variable is also identified and the intervention program is designed for management consideration.

### *Participants*

The 101 HEI academic managers who were working in one of the 38 academic departments of Centro Escolar University (CEU) for the SY 2013-2014 were examined. In particular, the deans, assistant deans, academic heads, academic senior staffs, associate deans and program heads are composed of 6 academic managers.

### *Instrument*

The questionnaires were presented and instructions were carefully given to the respondents personally. The first part of the questionnaire is a personal profile developed by the researcher. It is a multiple choice type where respondents are requested to check the box that corresponds to their age, gender, highest educational attainment, marital status and years of experience in the HEI. On the other hand, the second part dealt with the CPS profile developed by Basadur. It is a rating scale instrument wherein the respondents are requested to rank their CPS preference on which 4 is the highest and 1 is lowest to determine the four CPS styles such generator, conceptualizer, optimizer and implementer.

### *Validity and Reliability of the Instrument*

The Basadur's CPS profile instrument was validated using test-retest, split half reliability, predictive validity and external validity procedures to determine the consistency of the instrument and what it was supposed to measure (Basadur, 1998). The correlations coefficients columns of test-retest were ranging from .58 to .75 show significantly significant at the  $p < .001$ . The correlations coefficients of split half reliability were ranging from .62 to .73 show statistically significant at  $p < .001$ . In predictive validity test, the results agreed

between the prediction by inventory and prediction by expert partner with significant chi-square value of 24.52 at  $p < .001$  with  $d.f. = 2$ .

The external validity of this instrument was also validated using the psychological types of Myers-Briggs Type Indicator (MBTI) based on Jung's theory. It was appeared as highly relevant to CPS profile quadrant styles. Generator style correlations were strongly associated to extroversion (-.35,  $p < .01$ ) and perception (.30,  $p < .01$ ) than to intuition (.25,  $p < .01$ ) and feeling (.22,  $p < .05$ ). Optimizer style correlations were strongly associated to introversion (.37,  $p < .01$ ) and judging (-.31,  $P < .01$ ) than sensing (-.24,  $p < .01$ ) and thinking (-.17,  $p < .05$ ). Conceptualizer style correlations were strongly associated to intuition (.38,  $p < .01$ ) and lesser but significant to perception (.20,  $p < .05$ ). Implementer style correlations were associated almost strongly with sensing (.36,  $p < .01$ ) and judging (.21,  $p < .05$ ). The results found out that the CPS process is related to the preferences of different MBTI functions. In general, tests imply that Basadur's CPS profile is reliable and valid that can be used to evaluate the attitude and behavior in creative problem solving of HEI academic managers.

### *Statistical Tools*

The researcher likewise employed statistical instruments to interpret the data such as frequency distribution and percentage to present the number of times the data is given over 100; one-way analysis of variance (ANOVA) to determine the significant differences of two or more independent groups; and t-test to determine the significant difference of two unrelated groups.

## Results and Discussion

The implications of creativity styles of HEI academic managers considered their personal profile in indigenous and efficient handling of projects in sensing and responding to organizational changes that were presented and discussed below:

### *CPS Styles of the Respondents*

Respondents were classified according to the number of their creativity styles. Respondents with single creativity style were dominated by optimizers with 40.47 percent (f=34) followed by implementer with 22.62 percent (f=19). Generators and conceptualizers had the same weight with 11.91 percent (f=10). Respondents with dual creativity style were dominated by the generators and optimizers; generators and implementers; conceptualizers and optimizers; optimizers and implementers where all of them had 2.38 percent (f=2). Generators and conceptualizers were the least among the dual creativity style with 1.19 percent (f=1). Respondents with triple creativity style were generators, optimizers and implementers; and conceptualizers, optimizers and implementers where both of them had 1.19 percent (f=1).

Even though there were academic managers who had more than one creativity style in the HIE, still the academic managers as a whole were mostly dominated by a single creativity style. Each person contributed a unique creative problem solving profile. However, there were people who enjoyed having involved in multiple stages in problem solving (Basadur & Gelade, 2003), and therefore may have more than one CPS style.

**Table 1**

*Respondents' CPS Styles*

Creativity Styles	Frequency	%
<b>One Identity</b>	<b>73</b>	<b>86.91</b>
Generator	10	11.91
Conceptualizer	10	11.91
Optimizer	34	40.47
Implementer	19	22.62
<b>Dual Identity</b>	<b>9</b>	<b>10.71</b>
Generator & Conceptualizer	1	1.19
Generator & Optimizer	2	2.38
Generator & Implementer	2	2.38
Conceptualizer & Optimizer	2	2.38
Optimizer & Implementer	2	2.38
<b>Triple Identity</b>	<b>2</b>	<b>2.38</b>
Generator, Optimizer & Implementer	1	1.19
Conceptualizer, Optimizer & Implementer	1	1.19
<b>Total</b>	<b>84</b>	<b>100.00</b>

HEI had numerous optimizers. They are rationalists who appeal on rational structure of mathematical (Mastin, 2008) and logical principles (deductive) of formulating abstract ideas to practical experiences. By noticing inconsistencies (Browning, 2005), they can detect simplicity, focus, discipline, improvement and delightful with moral direction and honesty in selecting intellectual and artistic designs (Freiberg, Freiberg & Dunston, 2011). They can construct assumptions, trend, predictions and dependencies based on prior experiences with consistency and originality. Their decision making are based on the highest outcome with uncertainties (Riabacke, 2006), good ideas (Paulus, Kohn & Adritti, 2011), unique judgment (Storme & Lubart, 2012) and maximization of happiness (Mourkogiannis, 2006). Their effective and efficient decision-making (Itanyi, Ewurum & Ukpere, 2012) including the rationality (Curseu & Schruijer, 2012) in the possibility of positive social change at high stakes of situations (Berry, 2013) enhances fairness on intuition at executive level, compromise at managerial level, and computational at supervisory level (Basi, 1998). These are the novel assignments of great optimizers.

HEI had numerous implementers. They are essentialists who view unalterable permanent attributes (Mastin, 2008) of seniors, sideways, lower and outside people (Freiberg, Freiberg & Dunston, 2011) in gaining practical experience that covers all details from A-Z (Browning, 2005). Their commands require conformance (Haeckel, 1999) in broadening human aspirations with wisdom and not only knowledge (Freiberg, Freiberg & Dunston, 2011). They are the lower level managers (Basadur & Gelade, 2009) who simplify hierarchical structures of information where collaboration (Gitonga, 2013) empowers them to work with people and teamwork (Mahoney, 2002). They lead transformation (Hariri, Monypenny & Prideaux, 2014) through participative (Zulfgar, Valcke, Devos, Tuytens & Shahzad, 2016) materialization of unique ideas including the ethical values that affect human mankind. These are the novel assignments of great implementers.

HEI had few generators. They are existentialists who emphasize human existence (Mastin, 2008) and by spending time with people, picking up newspaper, watching news program or just looking around, they can collect illogical thoughts and elementary facts (irrational) (Personality Type, 2015) about people and environmental discrepancies (Browning, 2005 & Freiberg, Freiberg & Dunston, 2011). They seek discovery through insights on analogies from other organization including the highly uncertain decisions (Haeckel, 1999) and disruptive activities. They are sensemakers and sensegivers (Degn, 2015) who work in incrementing, consensus building, searching, debating, and assessing (Vandenbosch & Saatcioglu, 2006) to articulate vision, foster acceptance and expect high performance of the group (Zulfqar, Valcke, Devos, Tuytens & Shahzad, 2016). These are the novel assignments of great generators.

HEI had few conceptualizers. They are empiricists who value the experience in the formation of ideas (inductive) (Mastin, 2008) where prior experience in gathering intuitive

illogical thoughts and elementary facts (irrational) (Personality Type, 2015) is an excellent catalyst for change to see situations from a different vantage point (Browning, 2005). They take inventory of people (Freiberg, Freiberg & Dunston, 2011) and reduce non relevant pattern to translate this into meaning from mathematical algorithms to neural networks (Haeckel, 1999). They abstract the goodness (Mourkogiannis, 2006) of problem collaboration (Basadur, Pringle, Speranzini & Bacot, 2000) to identify strategic and tactical challenges for specific standpoints (Basadur, 2003). These are the novel assignments of great conceptualizers.

HEI had overloaded creative convergent academic managers composed of optimizers and implementers and over loaded creative divergent academic managers composed of generators and generators. There is imbalance creativity in the HEI organization. Overvaluing convergent academic leaders will lead to undervaluing the divergent one. HEI academic managers as convergent leaders were rushing to compute the possibilities of occurrence based with the highest outcome in fair and honest intellectual and artistic design without considering the non-relevant patterns which might be the catalyst for change. They can transform the organization immediately with human aspirations and ethical values but cannot collect disruptive/different ideas that can promote high performance of the group. They were undervaluing the long term activities which might lead in ignoring the short-term setbacks necessary in the long term results.

*Creative Problem Solving (CPS)  
Profile of Respondents when Grouped  
According to Personal Profile*

There is no significant relationship in the creativity of the HEI academic managers in problem solving when grouped according to the personal profile. The comparison of creativity shows whether HEI academic managers grouped according to

**Table 2***CPS Profile According to Age*

Age	Mean	S.D.	F-Value	Significance
21-30 years old	23.33	3.512		
31-40 years old	23.92	3.942		
41-50 years old	24.51	2.356	0.942	P=0.444>0.05
51-60 years old	25.20	2.141		NS
61-70 years old	23.56	3.575		

**Table 3***CPS Profile According to Gender*

Gender	Mean	S.D.	t-Value	Significance
Male	24.14	2.878	(0.513)	P=0.609>0.05
Female	24.56	2.733		NS

age, gender, highest educational attainment, marital status and years of experience in the HEI, their creativity remains the same or unaffected.

**Age.** The highest mean of age is 23.92 (SD 3.942) goes to 31-40 years old followed by mean of 23.56 (SD 3.575) for age 61-70 years old, mean of 23.33 (SD 3.512) for 21-30 years old, mean of 24.51 (SD 2.356) for 41-50 years old and mean of 25.20 (SD 2.141) for 51-60 years old. There is no significant difference in the creativity when grouped according to age ( $F=.942$  and  $P=0.444>0.05$ ). Therefore, the null hypothesis, **“There is no significant difference between CPS profile and age”, is accepted.**

Similar to this research, age has no significant difference among faculty members' creativity (Rahimi, Arbabisarjou, Allameh & Aghababaei, 2011). Age cannot manifest in the evaluations of the quality of the final creative product (Chan, Sheung-Tak Cheng & Ng, 2013). Older adults have demonstrated equivalent creativity to the young adults (Villa, 1999). Age is the most significant socialization variable in generating thinking creativity (Higgins & Zhang, 2009) but it cannot affect in any curricular reform and implementation (Tumova, 2012).

However, to other researchers, young people are curious in paradigm busting ideas or discoveries (Dietrich & Srinivasan, 2007) and good in social adjustment (Westermeyer, 2013) with higher organization creativity perceptions (Celik, 2014). Middle-aged people have less investment in research and development but they can maintain lower operating leverages, lessen the risk of investment and acquire more diversified operations (Serfling, 2014) from practical application (Villa, 1999 & Ewoldsen et al., 2008). Senior adults are less involved in their work, less satisfied, less motivated and less committed than the younger ones (Kinichi & Williams, 2011) but their creativity appears when the workplace characteristics are not favorable to them (Binnewies, 2008).

**Gender.** Female has highest mean with 24.56 (SD=2.733) while male has lowest mean with 24.14 (SD=2.878). There is no significant difference in creativity when grouped according to gender ( $t=-.513$  and  $P=0.609>0.05$ ). Consequently, the null hypothesis, **“There is no significant difference between CPS profile and gender”, is accepted.**

Likewise, gender has no difference to the creativity style of the employees (Vincent, 2002). Sex is inconsequential with respect to creativity training attitude (Keong &

**Table 4***CPS Profile According to Highest Educational Attainment (HEA)*

HEA	Mean	S.D.	t-Value	Significance
Masters	24.91	2.390	1.133	P=0.261>0.05
Doctoral	24.22	2.942		NS

**Table 5***CPS Profile According to Marital Status*

Marital Status	Mean	S.D.	F-Value	Significance
Single	24.68	2.13		
Married	24.33	3.08	0.292	P=0.831>0.05
Widowed	25.67	2.52		NS
Separated	24.00			

Soon, 1996). Males and females tend to have similar levels of general creativity (Charyton, Basham & Elliott, 2008). The creative achievement of male and female can only produce if the biological and environmental factors will be considered (Abra & Valentine-French, 1991

Contrarily, gender is a measurable factor in both artistic process and assessments of drawings from imagination (Rostan, 2005). Creativity is based on how femininity and masculinity develops. People who are classified as androgynous individuals are creative than masculine, feminine or undifferentiated gender role (Stoltzfus, Nibbelink, Vredenburg & Thyrum, 2011). People with strong masculine gender whether male or female had undistinguishable performance (Heimer, 1996).

**Highest Educational Attainment.** The master's level has the highest mean with 24.91 (SD=2.390) while doctoral level has the lowest mean with 24.22 (SD=2.942). There is no significance difference of creativity when grouped according to highest educational attainment ( $t=1.133$  and  $P>0.261>0.05$ ). Henceforth, the null hypothesis, **"There is no significant difference between CPS profile and highest educational attainment", is accepted.**

Relatedly, having a highest degree of education does not mean the existence of creativity. Higher education usually aims to acquire actual facts but not the procedures on how executions are created (Mumford, Antes, Connelly & Beeler, 2010). It identifies professional identity (Fraser, 2011) that improves teaching quality and teaching practices (De Vries, Van de Grift & Jansen, 2014), develops decision making skills (Events et al., 2009) and maintains high-quality standards of practice against unethical acts, inappropriate and harmful practices (Kent, 2006).

**Marital Status.** The highest mean is widowed with 25.67 (SD=2.517) followed by single with 24.68 (SD 2.127), married with 24.33 (SD=3.079) and separated with 24.00 (SD=0.000). There is no significant difference in creativity when grouped according to marital status ( $F=0.292$  and  $P>=0.831>0.05$ ). With this, the null hypothesis, **"There is no significant difference between CPS profile and marital status", is accepted.**

Identical to other researches, marital status is not substantial to be considered as factor in employee adaptation, other social action and interaction influencing (Odaman & Nwachukwu, 2012). Marital status is inconsequential with respect to creativity training attitude (Keong & Soon, 1996).



**Table 6***CPS Profile According to Years of Experience in the HEI*

Length of Service	Mean	S.D.	F-Value	Significance
5 years & below	24.67	4.59		
6-10 years	24.20	2.78	0.250	P=0.861>0.05
11-15 years	23.67	1.63		NS
Above 15 years	24.60	2.57		

**Table 7***Comparison of CPS Styles*

Creativity Styles	Mean	S.D.	F-Value	Significance	Comparison	P-Value
Implementer (I)	28.99	4.337			I vs G	0.0000
Generator (G)	33.23	4.334	30.551	P=0.000<0.01	I vs C	0.0110
Conceptualizer (C)	30.70	4.736		VS	I vs O	0.0040
Optimizer (O)	27.04	3.989			G vs C	0.0000
					G vs O	0.0000
					C vs O	0.0000
Total	29.99	4.000				

Married people have less job stress while single people have invariable job satisfaction which is not corresponds to the quality of their life (Olatunji & Mokuolu, 2014). Married is better than the single (Han, Park, Kim, Kim & Park, 2013) due to the enjoyable time spent with their children that give them a higher global well-being and greater self-esteem (Demo & Acock, 1996).

#### **Years of Experience in the HEI.**

Respondents who stay above 15 years have the highest mean with 24.60 (SD=2.568) followed by 5 years and below with 24.67 (SD=4.590), 6-10 years with 24.20 (SD=2.781) and 11-15 years with 23.67 (SD=1.633). There is no significant difference in creativity when grouped according to number of years working in CEU (F=0.250 and P=0.861>0.05). From this, the null hypothesis, **“There is no significant difference between CPS profile and years of experience in the HEI”, is accepted.**

Similarly, tenure of service is not attributable to unobserved ability of inventors (Nakajima, Tamura & Hanaki, 2010). The educational reform is not in

accordance to the tenure of service (Tas, 2012 & Tumova, 2012) of the academic managers.

However to other researchers, organizational tenure (length of service) is consistently linked to attitude towards creativity training (Keong & Soon, 1996). The creativeness of men comes from the prior relevant technical experiences (Chang, Sung & Chen, 2002). The tenure of worker exhibits a negative relationship with exploration and exploitation activities that require a mechanism to elicit innovative and incremental development (Crawford, Leonard & Jones, 2013). The ideas can be acquired from the tenure of service (Higgins, 2009) that changes one’s own practice in the chosen profession (Loizou, 2011). The higher the tenure the higher organization mechanism can be introduced (Schechter & Asher, 2012).

#### *Creative Problem Solving (CPS) Styles when Compared from Each Other*

Respondents who are classified as Generators have the highest mean with 33.23

(SD=4.334) followed by Conceptualizers with 30.70 (SD=4.736), Implementers with 28.99 (SD=4.337) and Optimizers 27.04 (SD=3.989). The four creativity styles are very significantly different when compared from each other ( $F=30.551$  and  $P=0.000<0.01$ ). Therefore, there is a significant difference in the numerical values for each CPS styles.

HEI academic managers have distinct characteristics. From this, the null hypothesis, **“There is no significant relationship in the four CPS styles when compared with each other”**, is rejected. The statistical result of very significant shows that the creative styles of the respondents are conclusive and their identity reflects unique creativity style that differs from others. HEI academic managers are classified as convergent who often narrow down the choices in order to make an intelligent decision; and not divergent who accommodate number of possibilities that widens up the choices for brainstorming.

Specific training for generators and conceptualizers to develop their involvement in discovering of brand new problems and opportunities and in drawing of ambiguous and strategic issues in a fuzzy situation are suggested for management consideration. In addition to, specific training for optimizers and implementers to enhance their involvement in efficient and effective decision making process with focus on organizational issues and in materialization of plans and goals with the optimal benefits (Basadur, Basadur & Gelade, 2008) are also suggested.

#### *Implications for Management Intervention Program*

Based on the result of this study, it shows that **“there is no significant difference between CPS styles and personal profile”**, implies training program to be considered will not vary according to personal differences. **“There is very significant difference in the four CPS styles when compared with each other”**, implies

that training program to be considered addresses the problem solving stage where it requires attention of the organization.

Another salient findings show that **“HEI had numerous optimizers and implementers”**, implies that the intervention program to be developed is something that will develop the divergence skills of the academic managers particularly in the preparation of a lot of ingenuities (long term results) of unconventional discovery to accommodate number of possibilities. This will balance the innovation process by developing convergent to divergent CEU academic managers. Ingenious ideas of the divergent people can be used in reforming the organization efficiently. With this, HEI academic managers become more productive while organizational objectives are implemented efficiently and effectively.

An adaptive sense and respond environment requires equal blending of generators, conceptualizers, optimizers and implementers who are problem solvers in the organization. Recapitalization of HEI academic managers is necessary to tap all problem solvers that require attention to complete innovation process. An intervention program is designed for management consideration. This program aims the following:

1. To gather the welfare of people including their self-esteem, feelings and growth considering their existence, freedom and choice through active collaborative strategy to shares ideas, experiences, opinions and perspectives on identifying environmental changes. Problem based approach may gather disruptive activities for incrementing, consensus, searching, debating and assessing inconsistencies through experiencing the differences of illogical thoughts and elementary facts from people in a non-restrictive environment.
2. To draw unconventional ideas from a different vantage point through active

collaborative strategy to identify inconsistencies and relative patterns. Problem based approach may illustrate mathematical algorithm to neural networks of the unconventional ideas through picture taking of factual information from illogical thoughts and elementary facts in a non-restrictive environment.

## Conclusion and Recommendations

Based on this study, there is imbalance in the creativity of HEI academic managers.

Overvaluing the convergent may lead to undervaluing the divergent academic leaders. Academic managers are efficient in implementation but not in searching of ingenious works of art. They are committed to attain organizational objectives and achievement of the organization as a whole but not willing to solve problems by balancing the codification/personalization to decrease turnover retention. They are transactional leaders who promote structural justice and transformational leaders who promote social justice in improving organization security posture but not responsive as receiver-centered, stakeholder-based and relationship-building-oriented leaders. Their lack in social and cultural considerations might lead to inappropriate redefinition of different boundaries. Too many convergent HEI academic managers can rush the materialization of outcome with the most efficient cost using honest intellectual and artistic designs without considering non-relevant patterns and human aspirations which is also a catalyst of change.

There were no significant differences on CPS styles when HEI academic managers grouped according to their personal profile. Intervention program to develop academic managers to be divergent in preparation of a lot of ingenuities (long term results) of unconventional discovery to accommodate number of possibilities required no particular groupings of participants on

personal profile when it is implemented. Like other higher education institutions (HEIs) in Asia and the Pacific, HEI in the Philippines was considered convergent who promotes routinized capacities and focus on traditional model of "knowledge versus skills" and not on indigenous knowledge (Sarvi & Pillay, 2015).

Researcher suggested that (1) implementation of an intervention program for boosting the morale of the HEIs academic managers to search ingenious works; (2) research on creativity of HEIs non-academic managers to see the entire creativity of the organization; and (3) replication of this research for comparison to other HEIs of Asian and non-Asian countries to increase the number of divergent academic managers in reforming educational system not only in the Philippines but even around the world.



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