



# Evaluation of Non-economic and Economic Incentives in Promoting Teachers' Creativity and Innovativeness (TCI)

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**Abstract** – This study analyzed the influence of various incentive mechanisms on teachers' creativity and innovativeness. One hundred twenty-eight (128) teachers from Partido Area participated the study. Researcher-made perception survey, which was validated and reviewed by experts, was the main tool used to gather the needed data. Weighted mean, percentage, t-test, chi-square test, and Fishers' exact test were used as statistical tools to give meaning on the values obtained. The result showed that teachers are generally creative but are less innovative. Among the incentive mechanisms given to teachers, professional development support and plus factor given in Individual Performance Rating have significant relationship to teachers' creativity. On the other hand, non-economic incentives such as awards and gifts are the incentive mechanisms that have significant relationship to teachers' innovativeness. The study also revealed that there is no significant relationship between teachers' profile and creativity; however, the same cannot be said with innovation. It is therefore recommended that economic and non-economic incentive mechanisms that enhance the intrinsic motivation of teachers should be designed and implemented.

**Keywords** – Teachers' creativity, Teachers' innovativeness, Economic incentives, Non-economic incentives

## INTRODUCTION

The Organisation for Economic Co-operation and Development (OECD, 2016) states that lack of productivity and efficiency is the main problem that education is currently facing. For several years now, large amounts of money have been invested in education, yet, student outcomes continue to decline. Moreover, compared to other sectors such as health and technology, education seems to be trailing behind in terms of productivity (OECD, 2016). Education policy makers noted that in order to balance the outcomes with the investment, creativity and innovativeness among teachers are necessary.

It has been said many times before that teachers play a crucial role in what, how, and how much students learn (Vegas & Umansky, 2005) and that teachers are considered as the most powerful factor in student achievement (Hattie, 2003). However, today's technologically based world is redefining the parameters of knowledge every day (Simplicio, 2000). New technologies such as video-games, mobile phones, and other digital media that surrounds the learners brings a new understanding of communication, information retrieval and meaning-making (Ferrari et al., 2009) and it is posing as a great challenge for teachers. Pedro (2006 as cited in Ferrari et al., 2009), claims that the gap between the school and home digital environment is

affecting the learners' expectations. Thus, there is a need for educators to develop new ideas and pedagogies to meet 21st century learners' expectations (Kwek, 2011). Educators should be creative and innovative to support the kind of learning that today's learners need which will help them succeed in the future.

Creativity is defined by Amabile (2012, p.1) as “the production of a novel and appropriate response, product, or solution to an open-ended task. Although the response must be new, it cannot be merely different; the nonsensical speech of a schizophrenic may be novel, but few would consider it creative. Thus, the response must also be appropriate to the task to be completed or the problem to be solved; that is, it must be valuable, correct, feasible, or somehow fitting to a particular goal. Moreover, the task must be open-ended (heuristic), rather than having a single, obvious solution (purely algorithmic). Ultimately, a response or product is creative to the extent that it is seen as creative by people familiar with the domain in which it was produced.”

Quite a lot of research have been done on creativity using various approaches and the results have been linked to different factors like Amabile's Intrinsic Motivation Hypothesis of Creativity. This theory proposes that “the intrinsically motivated state is conducive to creativity, whereas the extrinsically motivated state is detrimental” (Amabile, 1985, p. 393). Adams (2005) agrees with Amabile and adds that



creativity is made up of three components such as knowledge, creative thinking, and motivation. Adams (2005) also sees motivation, both intrinsic and extrinsic, as the most important component of creativity. Lapienė and Dumciene (2014) who accounts that although little is known about the factors that stimulate teachers' creativity, evidence points to work motivation, epistemological beliefs, awareness, self-confidence, organizational climate, and leadership style.

Meanwhile, OECD (2016, p.15) defines innovation as "the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations."

Same with creativity, several studies have been conducted on innovation. Some of these studies include those performed by OECD (2016) and Ferrari et al. (2009) which discuss the role of innovation in facing the challenges in today's education. Innovation is seen not just as an opportunity but a necessity to prepare students to cope successfully in the rapidly changing world.

Studies on creativity and innovation are broad and complex. However, for this study, creativity and innovation is considered as interrelated concepts but at the same time, considered as different fields. This study's contribution to this growing number of literatures is an analysis of teachers' incentivized behavior, particularly in terms of creativity and innovativeness.

### OBJECTIVES OF THE STUDY

This study generally aimed to analyze the influence of various incentive mechanisms on teachers' creativity and innovativeness.

### MATERIALS AND METHODS

The methodology of this study is divided into three parts. The first part was the conduct of desk research. The desk research involves review of existing literature on the influence of incentives on teachers' performance and review of the policies and guidelines on the implementation of incentives given to public school teachers in the Philippines like the Performance Based Bonus (PBB), Performance Enhancement Incentive (PEI), among others. As Amabile (2012) claims that a response or product is creative if it is seen as creative by people familiar with the domain in which it was produced, the second part of the methodology is the interview with the Division Superintendent and some

School Administrators to get their views and ideas on creativity and innovativeness of teachers. The information gathered from the first two parts were used to formulate the questionnaires. The questionnaire was validated by ten faculty-researchers. The third part of the methodology was the distribution of questionnaires and the actual gathering of data.

Partido Area has two hundred sixty-nine (269) public elementary schools, sixty-five (65) public secondary schools, and one (1) state university. In order to gather the needed data, the researchers decided to use multi-stage sampling. In the first stage, the researchers drew six or sixty percent of the total number of the municipalities. After drawing the municipalities, the next stage was the drawing of schools in each of the municipality in both elementary and secondary level. From the identified elementary and secondary schools, the number of teachers was identified to determine the sample size for each school. The number of respondents for each school was identified using the sample size calculator by [surveymonkey.com](http://surveymonkey.com).

To interpret and analyze the gathered data, the researchers made use of both descriptive and inferential statistics. Weighted mean was used to determine the degree of creativity and innovativeness of the incentivized teachers in Partido area whereas percentage was used to characterize the incentivized teachers who are most likely to be creative and innovative. However, to test the significant relationship between and among the teachers' profile, incentives mechanisms and creativity and innovativeness, Chi-square and Fisher exact test were used.

### RESULTS AND DISCUSSION

#### Level of creativity and innovativeness of teachers in Partido area

Table 1 shows the indicators of creativity among teachers. Based from the data shown below, it revealed that teachers are generally "creative" (M=3.05). Among the indicators of creativity listed in the table, the indicator "Encourages students to participate in every school activities" (M=3.63) ranked first and marked as "very effective." This implies that most of teacher's creativity style is to communicate and collaborate with other people. Magulod (2017) suggests that teachers see the importance of consultation and collaboration with other people to come up with creative tasks or works. This finding also implies that teachers believe that students can be at their best and develop creativity better when they work with other people or in a group.

Table 1. Level of Creativity of Teachers

Indicators	M	VD
Prepares self-learning materials	2.90	C
Prepares instructional materials to facilitate the teaching-learning process	3.24	C
Uses technology in teaching to enhance understanding of the topic	2.78	C
Conducts action researches to find solutions to problems	2.20	LC
Conducts outreach/extension activities	2.28	LC
Observes proper filing of students' info	3.31	VC
Maintains open communication with students and their parents	3.35	VC
Integrates various strategies in teaching	3.32	VC
Helps low performing students improve their class standing	3.27	VC
Encourages students to be punctual in class	3.56	VC
Give students opportunities to show their works	3.58	VC
Encourages students to participate in every school activity	3.63	VC
Prepares review materials to prepare students for high stakes exams	2.68	C
Conducts enhancement classes	2.58	C
<b>Grand Mean</b>	<b>3.05</b>	<b>C</b>

Legend: VC-Very Creative, C – Creative, LC- Less Creative

On the other hand, teachers are marked “less effective” in the indicator “I conduct research to find solutions to problems” (M=2.20). This implies that most teachers are still hesitant to venture into research. This may be explained by the following reasons: (a) teachers don't see the importance of research to their profession; (b) their research competencies are low which hinders them from producing a research output; (c) they do not have enough time because of their hectic schedules. Butt and Shams (2013) reports that teachers believe that research is a difficult process, it is of little or no use to their professional life, it does not have relevance in their lives, and it causes them anxiety.

Table 2. Level of Creativity of Teachers

Indicators	M	VD
Designs learning materials for independent learning	2.98	I
Creates learning materials that are user-friendly, interactive, and enjoyable	3.19	I
Submits instructional materials for copyright applications	1.96	LI
Creates PowerPoint presentations that are interactive and concise	2.48	LI
Integrates educational apps as reinforcement in teaching	1.89	LI
Uses web logs account where students can access lectures and other supplementary materials	1.79	LI
Engages in programmatic and collaborative researches	1.79	LI
Submits research proposals to external funding agencies	1.49	NI
Creates training manuals for extension activities	1.54	NI
Establishes linkages to other organizations or agencies	1.88	LI
Make use of computer software in saving the students' files and for easy retrieval of information	2.99	I
Utilizes social media sites to communicate with students	2.31	LI
Adopts computer-aided instruction	2.69	I
Practice experiential teaching	2.69	I
Expose children to new environment not only inside the classroom	2.60	I
Helps students connect their ideas to their own experiences and emotions	3.26	VI
Conducts remedial classes to address the problems on low performing students	2.87	I
Gives awards and recognitions to students who has manage to finish the school year with a complete attendance.	3.02	I
Organizes exhibits to showcase the students' works	2.42	LI
Gives additional points to students who participates in school activities	3.25	VI
<b>Grand Mean</b>	<b>2.45</b>	<b>LI</b>

Legend: VI-Very Innovative, I – Innovative, LI- Less Innovative, NI – Not Innovative

Table 2 presents the indicators for innovativeness. As what the data shows, teachers are regarded “less innovative” in general (M=2.45). Among the indicators listed, only two are marked very effective, namely “I help students connect their ideas to their own experiences and emotions” (M= 3.26) and “I give additional points to students who participates in school activities’ (M=3.25). Conversely, the indicators “I submit research proposals to external funding agencies” (M=1.49) and “I create training manuals for extension activities” (M=1.54) were interpreted as “not innovative.”

From these findings, it can be inferred that teachers are “creative” but “less innovative.” Results imply that teachers give more importance to participation in school activities rather than on research and extension activities. It also implies that teachers prefer the traditional way and are resistant to venture into new things because according to OECD (2016), education is sometimes perceived as one of the most conservative social systems.

### **Characteristics of creative and innovative teachers in Partido area**

Table 3 shows the level of creativity and innovativeness of the teachers across their profiles. From the results, it can be observed that male teachers (Mc=3.12, Mi=2.52) appear to be more creative and more innovative than female teachers (Mc=3.03, Mi=2.45). Some studies, however, indicate otherwise. Hamed et al. (2016) report that female teachers are more creative than their male counterparts, specifically when it comes to their ability to serve as a role model in elementary school settings.

In terms of educational attainment, doctorate degree holders are found to be very creative (Mc=3.52) and innovative (Mi=2.94). As to the level of creativity and innovativeness in terms of age, all age groups are marked as “creative” but teachers whose age ranges from 40 to 49 have the highest weighted mean (M=3.13). These findings imply that teachers in their 40’s are the most creative among the age groups.

A possible explanation for this is that teachers in their 40’s are more experienced than teachers who are in their 20’s and 30’s and at the same time more open to trying out new ideas than teachers who are in their 50s and 60s. Teaching experiences matter at least to certain point. Stronge (2007), affirms that experienced teacher differs from new teachers in such a way that they have attained expertise through real-life experiences,

classroom practice, and time. They also have a more varied collection of strategies, more capable of creating meaningful lessons, and are much better at planning and handling problems inside the classroom (Stronge, 2007).

Table 3. Level of creativity and innovativeness across the profile of the respondents

AREA	CREATIVITY		INNOVATIVENESS		
	M	VD	M	VD	
<b>A. Sex</b>					
Male	3.12	C	2.52	I	
Female	3.03	C	2.45	LI	
<b>B. Educational Attainment</b>					
Baccalaureate Degree	3.02	C	2.44	LI	
Master’s Degree	3.07	C	2.47	LI	
Doctorate Degree	3.52	VC	2.94	I	
<b>C. Age</b>					
20-29	3.11	C	2.63	I	
30-39	3.02	C	2.47	LI	
40-49	3.13	C	2.53	I	
50-59	2.97	C	2.27	LI	
60 and above	3.02	C	2.31	LI	
<b>D. Length of Service</b>					
1-10 years	3.07	C	2.55	I	
11-20 years	3.13	C	2.47	LI	
21-30 years	3.00	C	2.26	LI	
31 and above	2.97	C	2.37	LI	
<b>F. Position</b>					
BASIC	Teacher I-III	3.06	C	2.47	LI
	Master Teacher	2.86	C	2.12	LI
TERTIARY	Instructor & Assistant Professor	3.08	C	2.61	I
	Associate Professor & Professor	2.88	C	2.16	LI

In terms of length of service, teachers who are employed for about 11-20 years (Mc=2.55) ranked first and interpreted as “creative.” This implies that these teachers are at the prime of their career—not too young and not too old. They already have enough experience and yet are still open to using new teaching methods or strategies.

On the other hand, teachers whose age ranges from 20 to 29 are found to be the most “innovative” among the age groups. Some of the possible reasons for this could be that younger teachers have more energy, more passionate, and has access to the newest pedagogy and pedagogical methods since they are more exposed to new technologies. Therefore, younger teachers are more

likely to introduce changes and be more innovative than other age groups. Devine (2015) of the Irish Times reports that most older teachers prefer the tried and tested methods while younger teachers are more likely to try out new methods.

When it comes to rank or position, teachers from basic and tertiary level were presented separately. In basic education, Teacher I-III positions are found to be more creative ( $M_c=3.06$ ) and innovative ( $M_i=2.47$ ) than Master Teachers. In tertiary level, Instructors and Assistant Professors are considered as more creative and innovative compared to Associate Professors and Professors. Perhaps the reason for this is that Master Teachers, Associate Professors, and Professors either have already reached the highest rank that they were aspiring for and there is not much room for promotion and as a result, they no longer exert as much effort as those in the lower academic ranks (Karachiwalla, 2010).

#### **Factors that influence teachers' creative and innovative behaviours**

Table 4 shows the test of significance of the relationship between creativity and teachers' profile, namely sex, highest educational attainment, age, number of years in teaching, and academic rank. To find if significant relationship exists, chi-square test of independence or Fisher's exact test was employed.

Table 4. Test of significance of relationship between creativity and teachers' profile

<b>Profile</b>	<b>x<sup>2</sup> value</b>	<b>df</b>	<b>Sig. value</b>	<b>Exact sig. value</b>
Sex <sup>b</sup>				.521
Educational Attainment <sup>a</sup>	2.543	1	.111	
Age <sup>b</sup>				.854
Length of Service <sup>b</sup>				.062
<b>Academic Rank</b>				
Basic Education <sup>b</sup>				1.000
Tertiary Education <sup>b</sup>				.267

<sup>a</sup> Chi-square test of independence is used for it satisfies the conditions and assumptions.

<sup>b</sup> Fisher's exact test is used for there are expected values less than 5.

\* Relationship is significant at 0.05 level of significance. (two-tailed)

As reflected in the table above, teachers' creativity has no significant relationship with any of the

profiles of the teachers. Thus, the researchers concluded that creativity has nothing to do with the profile of the teachers.

Table 5. Test of significance of relationship between innovativeness and teachers' profile

<b>Profile</b>	<b>x<sup>2</sup> value</b>	<b>df</b>	<b>sig. value</b>	<b>exact sig. value</b>
Sex <sup>a</sup>	2.121	1	.145	
Educational Attainment <sup>a</sup>	2.271	1	.132	
Age <sup>a</sup>	1.289	2	.525	
Length of Service <sup>a</sup>	6.217	1	.013*	
<b>Position</b>				
Basic Education <sup>b</sup>				.067
Tertiary Education <sup>b</sup>				.238

<sup>a</sup> Chi-square test of independence is used for it satisfies the conditions and assumptions.

<sup>b</sup> Fisher's exact test is used for there are expected values less than 5.

\* Relationship is significant at 0.05 level of significance. (two-tailed)

Table 5 presents the test of significance of the relationship between innovativeness and teachers' profile. It can be observed that among the profiles, number of years in teaching is significantly related to their creativity,  $x^2(1) = 6.217$ ,  $p = 0.013$ . This means that teachers who are new to teaching appears to be innovative than those teachers who are most likely to retire. The possible reasons for this finding are: new teachers are more exposed to new technologies than older teachers; new teachers are more passionate and more open to try new ideas; new teachers have more fresh set of ideas that they want to implement and they have more energy to do more things than older teachers; and new teachers are hungry for promotion, thus, exert more effort. Other than the number of years, no other profile is significantly related to teachers' innovativeness.

Table 6 shows the significance of the relationship between incentives and teachers' creativity. Based from the data shown below, a significant relationship exists between the teachers' creativity, and incentives, particularly professional development support,  $x^2(1) = 5.471$ ,  $p = 0.019$ , and plus factors in the IPR,  $x^2(1) = 5.166$ ,  $p = 0.023$ , using 0.05 level of significance. This implies that both economic and non-economic incentive can affect teachers' creativity.

However, economic incentive is more effective in boosting teachers' creativity if it complements with the teachers' intrinsic motivation like, wanting to learn more or wanting to improve him/herself which attending professional development activities can accomplish. Thus, giving monetary assistance to teachers when attending seminars, trainings or conferences can affect their creativity.

Table 6. Test of significance of relationship between incentives and teachers' creativity

Incentives	x <sup>2</sup> value	df	sig. value
<b>Economic Incentives</b>			
PBB	.063	1	.801
PEI	.289	1	.591
Thirteenth and Fourteenth Month	.693	1	.405
Step Increment	.238	1	.626
Cash Gift	.445	1	.505
Chalk Allowance	.124	1	.724
Professional Development Support	5.471	1	.019*
<b>Non-economic Incentives</b>			
PRAISE	1.120	1	.290
Promotion	.243	1	.622
Rest and Recreation Activities	.001	1	.970
Plus Factors in IPR	5.166	1	.023*
Awards and Certificates	3.386	1	.066
Flexible Policy on Attendance	1.093	1	.296
Gifts	3.516	1	.061

\* The relationship is significant at 0.05 level of significance (two-tailed)

Likewise, the fact that the non-economic incentive, plus factors in IPR, has a significant relationship with creativity, it implies that teachers' creativity is boosted when their efforts are appreciated and rewarded. Teachers are intrinsically motivated by the feeling of competence and efficacy for the positive feedback on a particular activity that merited them the plus factor in their IPR. Deci and Ryan (2000), in their Self Determination Theory, argue that interpersonal events, rewards, communication and positive feedback when performing an activity enhance intrinsic motivation. When intrinsic motivation is enhanced, a person becomes more creative (Amabile, 1985). Moreover, since their rating in IPR reflects their over-all

performance, teachers become more motivated to do better, and to do better, they become more creative.

Table 7 shows the significance of the relationship between incentives and teachers' innovativeness. Based from the data shown, significant relationship exists between the teachers' innovativeness and incentives, namely PRAISE,  $\chi^2(1) = 5.471$ ,  $p = 0.019$ , and gifts,  $\chi^2(1) = 5.166$ ,  $p = 0.023$ , using 0.05 level of significance. This means that PRAISE or Awards and giving gifts to teachers have something to do with the teachers' innovativeness.

Table 7. Test of significance of relationship between incentives and teachers' innovativeness

Incentives	x <sup>2</sup> value	df	sig. value
<b>Economic Incentives</b>			
PBB	7.396	1	.237
PEI	1.387	1	.239
Thirteenth and Fourteenth Month	.124	1	.714
Step Increment	.950	1	.757
Cash Gift	.021	1	.881
Chalk Allowance	.020	1	.888
Professional Development Support	.000	1	.997
<b>Non-economic Incentives</b>			
PRAISE/Kilyab	6.634	1	.010*
Promotion	1.623	1	.203
Rest and Recreation Activities	2.300	1	.129
Plus Factors for the IPR	3.635	1	.057
Awards and Certificates	.591	1	.442
Flexible Policy on Attendance	2.017	1	.156
Gifts	8.006	1	.005*

\* The relationship is significant at 0.05 level of significance (two-tailed)

This finding implies that awards, recognition and prizes motivate teachers to be innovative. Again, this is an indication that teachers are intrinsically motivated. However, this time, aside from recognition and positive feedback, they are more motivated by the fact the activity involved is self-initiated. PRAISE Award involves innovative practices in elementary and secondary education while in tertiary education, most awards, involves research. Innovative practices and research are



both self-initiated activities. According to the Self Determination Theory of Deci and Ryan (2000), aside from the feeling of competence, a person becomes motivated if the performance of a chosen activity is self-initiated or self-determined.

### CONCLUSION AND RECOMMENDATION

Based from the findings, it can be concluded that not all economic and non-economic incentives promote teachers' creativity and innovativeness. Only those incentives that enhance teachers' intrinsic motivation have an effect on teachers' creativity and innovativeness. Thus, it is recommended that more economic and non-economic incentive mechanisms that enhance teachers' intrinsic motivation should be designed and implemented.

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