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## Teachers' Classroom Creativity Inventory Tool

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**Abstract.** Teacher's classroom creativity is necessary in 21<sup>st</sup> century teaching and learning. However teachers lack awareness of their own creativity and the responsibility that they have in fostering creativity among their students. In view of the necessity to evaluate teachers' classroom creativity, this paper designed a valid and reliable test called the Teacher's Classroom Creativity Inventory Tool, a concept first looked into by Palaniappan (2009); who probed on teachers' creativity and factors that affect teaching for creativity. Likewise, adapting Lin's (2011) description of creative pedagogy as componential, the tool was able to categorize the different factors of teacher's classroom creativity into three components and further established the relationships among the components.

Based on the results, the items fell into three categories – teaching creatively, teaching for creativity and creative learning -- which in this study described teacher's classroom creativity. It revealed gender, age, years in service, rank, subject taught, status and year level being handled to describe the profile of teacher's classroom creativity. It also showed significant relationships among the componential factors. Further, it should potentially expose levels of classroom creativity. Findings from reliability tests based on data gathered from high school teachers revealed to be highly reliable ( $\alpha = 0.96$ ) using Factor Analysis.

This will significantly help teachers know their creative potentials, promote a reevaluation of their classroom creativity, guide teacher development in appropriating trainings, and prompt Teacher Education Institutions to foster awareness of classroom creativity and effectiveness in their curriculum. Further, this study relevantly challenges innovation among teachers and their consciousness of and motivation towards classroom creativity will contribute to the efficiency in developing students for their own life skills.

**Key words:** teacher's classroom creativity; teaching creatively; teaching for creativity; creative learning

## 1. INTRODUCTION

### 1.1 Background

Fostering creativity in the classroom is viewed necessary in teaching and learning. When it is developed in schools, it will nurture student's life skills and eventually help the country. Teachers in the Philippines need creativity to develop instructional strategies and activities, to adapt resources to students' diverse needs, to motivate students and to cope with issues in classroom management. This great demand to self-develop in order to cope with globalization and 21<sup>st</sup> century living urge every teacher to advance creativity in the classroom, but there is a need for them to first know and understand what classroom creativity is and to awaken their creative abilities in order to fully perform upon such demands.

Looking at the vitality of initiating a concept and study on teacher's classroom creativity, this paper

presents a teaching concept which views classroom teaching as a creative behavior with different but interrelated elements. This intended to found a concept of teacher's classroom creativity based on articles reviewed and as indicated by some theories. Using this concept, an instrument was made to assess teachers' classroom creativity. This paper presents the validity and reliability of the instrument along with the factors that describe the profile of teachers' classroom creativity and the levels of creativity of sample teachers.

### 1.2 Teachers' Classroom Creativity

The aspect of creativity has found its way in the educational environment, which was pushed forth by several studies (Beghetto, 2010). Many inquiries have highly encouraged looking into teaching and learning creativity particularly in the classroom. They



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emphasized the role of a teacher in the classroom as far as creativity is to be fostered.

Further studies (Ayob et al, 2013; Beghetto 2010; Rashmi, 2012) substantiate these assertions by outlining its importance and recommending for teacher development towards creativity arguing that teachers as facilitators of learning should be equipped with creative skills that could be transferred and nurtured in their students thereby producing individuals who can solve problems and can critically evaluate real life issues.

However, there are also some researchers (Beghetto, 2010; Beghetto and Kaufman, 2013; Smith and Smith, 2010; Ayob et al, 2013; Rashmi, 2013) who had identified barriers and hindrances that affect teachers' classroom creativity. Factors like few, unsustained and scattered standardized instrument for creativity; curriculum standards; standardized assessment and undiscovered creative abilities were claimed.

In 2009, Talib found that most classroom creativity studies dwell on the purpose of developing students' creativity in the classroom. Thus, he proposed a shift of focus from students' creativity to teachers' own creativity in the classroom. Consequently, Manurung (2012), Ayob et al (2013), Rashmi (2012) and Palaniappan (2009) investigated on teachers' creativity, the factors that influence teaching activity and teaching for creativity. Said researchers were congruent on the importance of teachers' creativity and how it can be developed and nurtured.

Taking into consideration the theories and subsequent studies that greatly advanced the convergence or confluence approach in understanding creativity, and the call for defining creativity through a constructivist view and that the proposition of creativity must be explicitly defined by the researcher himself and be expressed by empirical indicators. This concept contributed to the inception of the present study thus proposing a definition using a componential model of teachers' classroom creativity, consisting of teaching creatively, teaching for creativity and creative learning as three interrelated components.

**Teachers' classroom creativity** refers to a three-component model of teacher's creativity involving three interrelated components: teaching creatively, teaching for creativity and creative learning. Operationally, it refers to how the teacher interplays teaching creatively, teaching for creativity and creative learning in a classroom setting.

**Teaching creatively** refers to the use of imaginative approaches to make learning more interesting and effective" (Jeffrey and Craft, 2004) with additional description "exciting" (Ayob et al, 2013). In this study, it refers to teachers' creative use of techniques, tools, materials and methods in teaching, such as the use of authentic materials and other realia to enhance students' understanding; easily finding substitutes for materials that are insufficient; giving varied examples to develop students' understanding; providing new things for students to think about, invite responses that are unique, practical and resourceful; going beyond the given text when explaining ideas to students and helping students understand better by using props and meaningful teaching aids.

**Teaching for creativity** is defined as "forms of teaching that are intended to develop young people's own creative thinking or behavior" (Jeffrey and Craft, 2004; Ayob, 2013). In this study, it refers to teachers' creative use of techniques, tools, materials and methods in teaching in order to develop students' creativity employing methods that make students think actively or think new ideas to act out or react to; giving students tasks that make them use different ways of solving problems like brainstorming, reflection, analyzing and showing cause and effect relationships; providing activities that exercise the imaginative and creative thinking of students; giving students situations which they can explore resources and ideas innovatively; providing tasks that allow students to make alternatives and attain new styles and providing props and materials to provoke students' curiosity to learn and be imaginative.

**Creative learning** focuses on children's actions (Lin, 2011). It fosters students' inherent curiosity to learn. It focuses on the fun and value of the process of learning itself, which results from the teacher's caring attitude and specific teaching strategies. It develops confidence to express oneself, autonomy of ideas, decision-making, and spontaneity and interest in learning. In this study, it refers to teachers' approaches to create a learning environment that provides opportunity to develop learner empowerment such as letting students develop their own thinking by allowing them to make their own decisions and find their own solutions; allowing students to learn independently and are giving them opportunities to show this in class; giving them opportunities to share their ideas and views, and giving students the opportunity to give their own



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suggestions and observations through different activities.

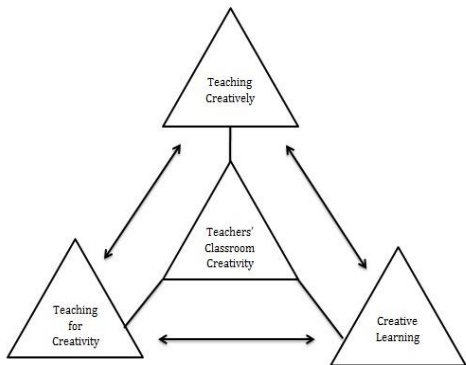


Figure 1. The theory of teachers' classroom creativity as described by its three components.

Other researchers had likewise looked into the characteristics of a creative classroom teacher. However, this study focused only on teaching creativity, teaching for creativity and creative learning as its components. While others use factors as thinking style, personal effort, teaching belief, knowledge, intelligence, career experience, and personal quality, this study focused on only the three aforementioned elements.

Furthermore, important teacher attributes that are said to be influential to teachers' classroom creativity and were investigated on by other researchers were also given emphasis in this study. For instance, Kaufman et al., (2009), Kinai (2013) inquired on gender as an important factor to creativity. However, they found that there is no gender difference in creativity.

Additionally, Kim, (2011), Kinai (2013) and Jones et al. (2014) asserted in their studies that age is one of the factors that influence creativity. They claim that creativity develops with age. However, Kinai (2013) particularly found that there is no significant difference between age and creativity.

In addition, Jacob and Rockoff (2011), Rice (2010), Jensen et al. (2012), Unal and Unal (2012) and Kinai (2013) all contributed substantial views on years of experience in teaching as one of the predictors of teaching effectiveness. However, Kinai (2013) found that creative productivity is not necessary to years in teaching experience.

Further, rank was another important factor that affects teaching creativity looked into by other researchers. Moreover, other researchers (Jacob and Rockoff, 2011; Abdulrab and Sridhar, 2012; Pishghadam et al, 2012) found subject taught and grade or year level may impact both teaching effectiveness and student performance. Finally, Csikszentmihalyi (1996) discussed status as an important factor to a persons' creativity.

### 1.3 Objectives

This study aims to impart three components of teachers' classroom creativity according to theories and related studies. Subsequently upon review of such literature the Teachers' Classroom Creativity Inventory Tool was designed and tested for validity and reliability. Likewise this paper aims to present the teacher attributes that describe teachers' classroom creativity.

### 1.4 Scope of the Study.

This study covered the validation of the Teacher's Classroom Creativity Inventory Tool; the survey of the profile and level of teachers' classroom creativity and the presentation of the three features, which are: teaching creatively, teaching for creativity and creative learning as components of teacher's classroom creativity and how they are vitally related to each other.

## 2. METHODOLOGY

The present study used a valid and reliable tool, which is the Teacher's Classroom Creativity Inventory Tool. The items in the tool were taken from a pre-survey given to 320 students on what they think the characteristics of a creative teacher should be. Then all items were subjected to constant comparison and content validation, after which, 5 judges conducted an expert validation. Then it was pilot-tested to 137 teachers from randomly selected public and private high schools. Likewise, the tool was subjected to factor analysis and revealed an alpha coefficient of 0.96, which was found to be highly reliable. Further, to determine if the sample size for pilot testing was adequate, the KMO (Kaiser-Meyer-Olkin) measure of sampling was used where the instrument gained a 0.90 value. Based on the results, the items were categorized into three aspects: teaching creatively, teaching for creativity and creative learning. Administered to 52 high school teachers who teach English, Math and Science, the tool was used to collect in order to establish the



profile and level of teachers' classroom creativity and the relationships among the three components.

### 3. RESULTS AND DISCUSSION

#### 3.1 Validity and Reliability Analysis

The results of the analyses of the items in the Teachers' Classroom Creativity Inventory Tool.

Considering the reliability of the Teachers' Classroom Creativity Inventory Tool, the various items developed dropped into three categories which were appropriately related to the three elements of teachers' classroom creativity. Results of the pilot test revealed reliability coefficients of the three categories as such: Teaching creatively (category A) consisted of 24 items (alpha = 0.938), teaching for creativity (category B) consisted of 14 items (alpha = 0.935), and creative learning (category C) consisted of 6 items (alpha = 0.788). The Teachers' Classroom Creativity Inventory Tool consisted of 44 items and gained an alpha coefficient of 0.961 was found to be highly reliable.

	CRONBACH'S ALPHA	N OF ITEMS
CATEGORY A	0.938	24
CATEGORY B	0.935	14
CATEGORY C	0.788	6
WHOLE INSTRUMENT	0.961	44

Table 1. Cronbach's alpha coefficients for Teachers' Classroom Creativity Inventory Tool.

KMO and Bartlett's Test

KMO of Sampling Adequacy	df	Sig
0.898	1176	0.000

Table 2. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for Teachers' Classroom Creativity Inventory Tool.

#### 3.2 Correlation Results for Teaching

Creatively and Teaching for Creativity, Teaching Creatively and Creative Learning and Teaching for Creativity and Creative Learning.

The table that follows presents the relationship of the three elements of teachers' classroom creativity.

	A Teaching Creatively	B Teaching for Creativity	C Creative Learning
A. Teaching Creatively	1	.77**	.72
B. Teaching for Creativity	.77	1	.70
C. Creative Learning	.72	.70	1

\*\* Correlation is significant at 0.01 level,  $p < 0.01$

\* Correlation is significant at 0.05 level,  $p < 0.05$

Table 3. Correlation Results for Teaching Creatively and Teaching for Creativity, Teaching Creatively and Creative Learning and Teaching for Creativity and Creative Learning.

Table 3 sums up the correlation results among the three elements of teachers' classroom creativity. Teaching creatively (A) and its relationship with teaching for creativity (B) is found to be significant at  $r = .77$ ,  $p = 0.01$  indicating high relationship; teaching creatively (A) and creative learning (C) show significant relationship at  $r = .72$ ,  $p = 0.01$  which indicates high relationship; and creative learning (C) and teaching for creativity (B) indicate significant relationship at  $r = .70$ ,  $p = 0.01$  showing high relationship. This shows a strong positive correlation among the three aspects of teachers' classroom creativity.

### 4. CONCLUSIONS





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This paper puts forward the concept of teacher's classroom creativity, which is established out of the theory of Lin (2011) and propositions of Palaniappan (2009). The instrument for evaluating teacher's classroom creativity, Teacher's Classroom Creativity Inventory Tool is revealed to have a high level of construct and criterion-related validity and also had high internal reliability. This study advances that Teachers' classroom creativity based on factor analysis is composed of three factors. First is teaching creatively (24 items), which is using imaginative approaches to make learning more fun and effective. Second is teaching for creativity (14 items), which involves forms of teaching intended to develop creative thinking and behavior. Third is creative learning (6 items), which banks on teachers' approaches to create a learning environment that empowers students and allows independent learning. Cronbach values of these factors showed high internal reliability. More so, correlation results showed strong relationships among the three components of teachers' classroom creativity.

## 5. ACKNOWLEDGMENTS

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