

## THE EFFECT OF SURVEILLANCE AND EVALUATION EXPECTATION ON THE CREATIVITY OF PRIMARY SCHOOL PUPILS

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**ABSTRACT:** *Creativity seems to be one of the determinants of perpetuation of species. Humans need to invent creative ways for dealing with the challenges of surviving in a continuously evolving planet. Creativity also has great implications for a nation's development. Nurturing and enhancing creativity is a major concern for educators. This study focusses on finding the effect of surveillance and Evaluation, two factors identified as killers of creativity; on the creativity of primary school pupils. Piaget's theory of creativity and Vygotsky's theory of creativity were used to explain the possible relationships in the study. The research design is the post-test control group quasi experimental design. Thirty-five children from two intact classes were purposively selected for the study. Four research questions were asked and two hypothesis formulated for the study. Data was collected from creative arts classwork of the pupils and analysed using the Independent population t-test. Results revealed a significant effect of both surveillance and evaluation expectation on the creativity of primary school pupils. Recommendations were made.*

**KEYWORDS:** Creativity, Surveillance, Evaluation, Innovation, Self-Reliance

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### INTRODUCTION

Creativity is important for adaptation and survival. Daily the world presents its inhabitants with novel challenges some of which hold serious implications for the survival of the human race. It usually requires the intelligence and creativity of the human race to be able to surmount these challenges. Children are believed to be born with a lot of natural instincts and potentials for creativity. It is believed that these creative instincts of children are either completely destroyed or limited by the processes of socialization which begin at the point of birth; basically in the home and at School.

According to Torrance in Roy (2018) all children are born with the capacity to be creative, research shows that creative and imaginative abilities peak at about the age of four, but upon entrance of children into the traditional education system, a drastic drop in creativity is observed. According to Torrance, the observed drop in creativity was initially thought to be a biological process but was later discovered through research to be cultural and due to factors such as pressure to conform. Other factors thought to affect creativity of children; inherent in the learning environment include rigidity of the learning environment, competition, pressure to meet expectations among others.

Parents and teachers usually tell children, what to do, what to use and how to use and by so doing robbing the children of their drive for innovation and utilization of their imaginative and creative instincts. Children are made to believe that for every activity, there is a way to do it right and a way to do it wrong. It therefore seems pointless for the children to create a new way of doing things or try to do things differently, they are by exertion of excessive control, restriction of choices, excessive rules and regulation, constant surveillance and evaluation

constrained to learn the old way of doing things instead of creating new ways of doing things. Harry Chapin's song 'Flowers are Red', Helen E. Buckley's Poem 'The Little Boy', and Tomie de Paola's book 'The Art Lesson' illustrate this phenomenon.

For childhood educators in Nigeria, the time has come to engender creativity in our young learners so that the future of Nigeria can see her producing the next generation's Mark Zuckerbergs, Bill Gates and can generally see Nigerians carrying out inventions in art and science that can turn the world around. As educators it is either there is something we are not doing right or there is something we are not doing at all. Hennessy and Amabile in Wilson (2018) listed seven creativity killers based on researches carried out in the United States. The creativity killers listed by Hennessy and Amabile in Wilson (2018) are, surveillance, evaluation, rewards, competition, over-control, restricting choices and pressure. These are factors which seem to be present not only in the school environment but in our homes.

In spite of the fact that children who are placed in the same class have different socio-economic and biological backgrounds, different interests and abilities and may have different disabilities and limitations we put them in the same classroom and based on a common criteria classify them into first, second, third, fourth to last position at the end of the term this should not be. This kind of classification sometimes breeds unhealthy competition and the consciousness of evaluation which according to Beghetto (2005) is limiting to creativity. Sadeghi and Ofoghi (2011) opined that a learning process that will foster creativity should develop self-reliance and self-efficacy, and promote risk taking in a threat free and safe environment which provides unpredictable situations and is non – judgemental in nature. This implies a situation where learners can act instinctively in response to their situation without their responses being judged as wrong or right. This study seeks to investigate the effect of surveillance and evaluation expectation, on the creativity of primary school children.

Creativity literally refers to the ability to create. According to Cooper and Jayatilaka (2006) creativity involves employing a heuristic rather than an algorithmic approach in resolving problems in a complex environment to such an extent that novel methods of doing things and novel results are achieved. San in Ozkal (2014) defined creativity as the use of known and available materials in the creation of completely novel things, providing solutions to problems and reaching a new and original synthesis. Creativity is a response to the adaptive demands of the environment. It is achieved in a bid to solve problems with less stress and maximization of both time and available resources. It involves the individual's imaginative abilities and reconstruction of ideas to produce novel products or new uses for available products

A lot of research has been carried out on how to unlock, harness and develop creativity, most of these researches focus on the teachers (Ibe, 2016; Ozkal, 2014; Abdullah & Sridhar, 2012). The current study however, focusses directly on the learners. There seems to be a dearth of research on the factors that hinder or kill creativity. Most of the work found on the factors that kill creativity were foreign; credited mostly to Amabile and her colleagues it is important to test the assertions made about the factors that kill creativity in our local space in order to find out if they have the same effect.

**LITERATURE/THEORETICAL UNDERPINNINGS****Self-Determination Theory (Deci & Ryan)**

Self-determination theory is a theory that explains the relative role of intrinsic and extrinsic motivation in initiation and completion of activity. It focusses on the extent to which an individual's behaviour is self-motivated and self-determined other than other motivate or externally motivated. Intrinsic motivation has been proven to be more beneficial in initiating and sustaining behaviour than extrinsic motivation. Deci and Ryan (1985) explain three basic needs that influence self-determination and hence intrinsic motivation. These three needs are competence, relatedness and autonomy. Individuals will strive to gain mastery of tasks of their interests, they like to be in control of the process. Relatedness implies a need to be connected to other individuals and to experience caring from others and autonomy implies the need to control and determine the outcome of their existence. Individuals seem to initiate activity as a means of meeting these innate needs. Deci and Ryan (1985) also theorised that providing extrinsic motivation for an intrinsically motivated behaviour decreases intrinsic motivation.

When children are intrinsically motivated based on the desire to meet their psychological needs of competence relatedness and autonomy their innate creative capabilities will be released as that will satisfy their need for competence. Surveillance tends to convey to the individual being surveilled a lack of confidence in his capacity to carry out his activities autonomously. This may lead to lack of self- confidence which may limit creativity. Also surveillance seems to limit the attainment of the the need for autonomy.

**Piaget's Theory of Creativity**

Piaget theorised that children can make sense of the things around them by actively engaging or interacting with those things. He believed that spontaneous and unstructured play is beneficial to children in the attainment of their goals. He emphasized liberty in learning. Piaget recommended focus on the child's thinking process and not the product. He believed that voluntary and self-directed involvement in activity is beneficial. He proposed the de-emphasis of readymade knowledge because it was thought to be limiting to children's creativity. Piaget emphasized autonomy and self-regulation that allows the child to construct their responses. He recognised the need to produce investors and innovators that were non conformists. This element of nonconformity is the bedrock of creativity. Piaget's theory supports the assertion that surveillance, evaluation, over control and restriction of choices are killers of creativity. This factors require conformity. They also provide readymade knowledge and do not allow for self-regulation and autonomy. Surveillance and evaluation limit liberty to be spontaneous and create.

**Vygotsky Theory of Creativity Vygotsky (1934)**

Vygotsky believed that creativity is innate. Among Vygotsky's believe about creativity is the believe that both the scientific and artistic creativity require imagination and thinking. Vygotsky views art as the expression of one' emotions which up to the time of projecting the emotions through the art the emotions were individual and private. But through art they become public. Vygotsky stated that though this public expression of emotions culture is shared. Vygotsky was of the opinion that art is an important machinery in the struggle of human existence. He stated that "creativity is essential to the existence of humanity and society", (Lindqvist, 2010; p 249). To Vygotsky creativity is tied to emotions. He accepted the

psychoanalysis view that art is a way of releasing unconscious emotions. He believes that the interpretation of emotions which are released in catharsis cause the imagination to flourish. He however, frowned at the proposition that unconscious thoughts were mostly sexual in nature, expressing conflicts between the desire and reality of early childhood.

Evaluation breeds anxiety which is a negative emotion that when expressed in excess could inhibit productivity. Many individuals are affected by test and evaluation anxiety. The knowledge of evaluation could therefore produce anxiety that may inhibit creativity.

### **Effect of Surveillance on creativity**

Surveillance is a term that has its application in different works of life with its meanings, methods and objectives differing sometimes wildly. Generally, surveillance implies the use of the senses in watching, and observing the activities of living beings in their environment. This definition has evolved with the evolution of science and technology. Surveillance is now done with the aid of invisible cameras, through electronic devices such as computers, mobile phones etc. Some synonyms for the word surveillance from the dictionary include observation, scrutiny, watch, view, inspection, monitoring, supervision etc.

Surveillance according to Marx (2015) is regard or attendance to a person or a group with the purpose of gathering data. It has a motive of control; it could also be for protection, entertainment or for quality enhancement. Marx (2015) noted that surveillance involves differences in power and tilts in favour of the more powerful. That is to say it is hierarchical with the person higher up on the hierarchy being the one carrying out surveillance. In the school environment surveillance usually takes the form of watching, monitoring and scrutiny. Amabile in Watts, Cockroft and Duncan (2009) simply defined surveillance as a situation in which an adult continually hovers around a child during the child's creative activity making the child conscious of the fact that he is being watched. She noted that risk taking creative urges are diminished in the face of surveillance.

According to Ridour (2014) historical examples demonstrate that when individuals suspect that they are being watched their thought processes are disrupted. In a study carried out by Amabile, Goldfarb and Brackfield (2009), Two experiments were carried out with the purpose of determining the effects of evaluation expectation and the presence of others on creativity. The presence of others was operationalized as co-action in one experiment and as surveillance in another experiment. In the surveillance experiment, half of the subjects believed there were being watched whilst they were working. The result of the experiment showed that creativity was lower in groups expecting evaluation, co-action did not affect creativity, but surveillance had a weak negative effect on creativity.

### **The Effect of Evaluation Expectation on Creativity**

Evaluation implies value judgement. It tries to ascertain to what extent a thing conforms to set standards. Wojtczak in Harvey (2018) defines evaluation as a process that tries to determine, systematically and objectively, how relevant, effective and impactful an activity is based on the objective of the activity. Harvey (2002), defines evaluation as every attempt at assessment, monitoring the quality of an activity or a product, auditing, endorsing, legitimating or accreditation. Evaluation can apply to a process, procedures or the product. It ends with a judgement. Evaluation is thought to produce anxiety, Beghetto (2005). Anxiety on the other hand if excessive undermines productivity.

Research suggests that competing for reward and contracting participants for reward reduces creativity, (Collins & Amabile, 2005). Amabile (1996) also stated that the expectation of evaluation hinders creativity. Hennesy (2001) stated that, among all the killers of intrinsic motivation and creativity identified by research, expected evaluation is the single most deleterious extrinsic effect. This he assumed to be due to the fact that expectation of evaluation seemed to combine certain aspects of all other killers of creativity. According to Beghetto (2005, p 260) “if students feel pressured by evaluation, surveillance, monitoring, and other salient features of assessment, their willingness to express creativity will suffer’. Runco in Beghetto (2005) also stated that the anxiety that accompanies assessment potentially stifles creativity. Though performance is important, when learners are under pressure to perform they experience anxiety which for some of them may reduce their creativity. Amabile (1996) and Collins and Amabile (1999) stated learners are likely to be more creative in an environment that promotes mastery other than in an environment that promotes performance and goal achievement.

In the study by Amabile, Goldfarb and Brackfield (2009), to test the effect of evaluation, the effects of evaluation were consistently noticed to be very strong. In fact, the effect of surveillance was said to be due to the effect of previously experienced evaluation. In a meta-analysis carried out by Bryon, khazanchi and Nazarian (2010) to determine the relationship between stressors and creativity, they discovered that social-evaluative threats are curvilinearly related to creative performance in an inverted U shape. Conditions with fewer social-evaluative threats increased creative performance, while conditions with two social evaluative threats decreases creative performance. Bryon, khazanchi and Nazarian (2010) suggested that low levels of social-evaluative threat may lead t a motivation to maintain congruence between their creative self-identity and the self-appraisal of their creativity that is reflected, this could lead to an increase in creativity, while situations of high social-evaluative threat will lead to psychological distress by increasing identity salience in relation to competence, this may lead individuals to shift their attention to the expected evaluation and thereby distract them from being creative.

### **Research Questions**

1. What are the observed behaviours of children carrying out a creative art work in an environment of surveillance?
2. What are the observed behaviours of children carrying out a creative art work with the knowledge and expectation of evaluation?
3. What is the effect of surveillance on the creativity of primary school pupils?
4. What is the effect of expected evaluation on the creativity of primary school pupils?

### **Hypotheses**

1. Surveillance has no significant effect on the creativity of children.
2. Evaluation Expectation has no significant effect on the creativity of children.



## **METHODOLOGY**

The research design is the post-test control group quasi experimental design. Observation method was also used to test the effect of the variables under study. The research was done in the area of creative arts. The study consisted of 2 sessions with the primary school children. In the first session the experimental group underwent surveillance while the control group did not undergo surveillance. In the second session the researcher controlled for evaluation to test the effect of evaluation on the creativity. One area of creativity was tested, creative arts; drawing, Mosaic designs and collage. Two experts in the field of creative arts were asked to grade the pupils' scores and a mean value of the scores was taken for the work.

### **Population of the Study**

The population of the study includes all primary school Children in Calabar Municipality.

### **Sampling technique**

The sampling technique was purposive. Intact classes of grade four pupils were used for both the experimental and control groups.

### **Sample Size**

The sample consisted of 35 fourth graders from Lourdes Academy in Ekorinim Calabar. Grade Four Marigold contained 17 pupils while Grade Four Daisy contained 19 pupils.

### **Scope of the Study**

The study covers all primary school children in Calabar Municipality. The conceptual scope of the study includes two constructs identified by Hennessy and Amabile in Wilson (2018) as killers of creativity in children, Surveillance and Evaluation.

## **Procedure for Data Collection**

### **Session 1**

#### **Experimental Group**

The pupils were presented with materials; straw, straw board, glue, scissors, pencils and markers and were asked to create a mosaic design of their choice. The choice of creative art work derived from the curriculum of the fourth graders. Effort was made not to disrupt their school curriculum for the school term. The creative arts teacher, the researcher and occasionally the head teacher, hovered around the pupils constantly; checking progress of their work, and making the pupils conscious that they were being observed. The researcher also observed the overt behaviour of the pupils.

#### **Control Group**

The control group did not undergo surveillance. They were provided with the same materials as the experimental group. They were asked to create a design of their choice, the arts teacher and the researcher sat down at the far end of the class observing the children from a distance.

## Session 2

### Experimental

The pupils were provided materials for creating a picture of their choice. The pupils were told that the researcher was going to evaluate their work at the end of the day and the pupil with the best work will be identified.

### Control group

The control group were provided materials and given the same task as the experimental group. They were again left on their own to work without any notice or expectation of evaluation. Each session lasted for 40 minutes.

At the end of each session, the art works of the grade five pupils were collected and graded, by experts in the field of creative arts. A mean score was obtained for each participant.

## RESULTS AND FINDINGS

Data was analysed using the Independent t-test statistics to determine the mean difference between the experimental and the control groups.

**Research question 1:** What are the observed behaviours of children carrying out a creative art work in an environment of surveillance?

**Table 1: Observed behaviours of children in the Surveillance experiment.**

Experimental Group	Control Group
Children froze whenever the researcher(surveyor) made a stop by their desk	Children seemed at ease
Children were conscious they were being surveyed and were constantly looking up to see if they were being watched.	They took more time to get settled and get started
Children seemed a bit jittery and uncomfortable	Concentration and focus improved after a while and they were more engrossed in their work
The rate of progress was slow	

**Research Question 2:** What are the observed behaviours of children carrying out a creative art work with the knowledge and expectation of evaluation?

**Table 2: Observed behaviours of children in the evaluation experiment**

Experimental Group	Control Group
Children were preoccupied with their work. They did not want to be distracted.	Children seemed more relaxed than the experimental group
Speed was elevated	Children seemed to enjoy the activity more

**Research Question 3:** What is the effect of Surveillance on the creativity of primary School children?

An examination of the means in table 4 below, shows a mean of 8.7 for the experimental group which was subjected to surveillance and a mean of 11.3 for the control group which was not subjected to surveillance. The result shows that surveillance reduces the creativity of primary school children.

#### Research Question 4

What is the effect of Evaluation expectation on the creativity of primary school children?

From Table 5 below, the experimental group which had the knowledge and expectation of evaluation had a mean creativity score of 7.2, while the control group which had no knowledge or expectation of evaluation had a mean creativity score of 8.4, this indicates that the knowledge of evaluation has lowered the creativity of the primary school children.

**Hypothesis One:** Surveillance has no significant effect on the creativity of children. Hypothesis is tested at .05 level of significance, 95% interval.

**Table 3: Group Statistics showing means and standard deviations of pupils in the surveillance**

#### Group Statistics

	pupils' Group	N	Mean	Std. Deviation	Std. Error Mean
Creativity_Score	Experimental	15	8.7333	2.54858	.65804
	Control	12	11.3333	3.52480	1.01752

**Table 4: T-test of the mean differences in the surveillance experiment.**

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Creativity_Score	Equal variances assumed	.715	.406	-2.225	25	.035	-2.60000	1.16859	-5.00675	-.19325
	Equal variances not assumed			-2.146	19.452	.045	-2.60000	1.21176	-5.13227	-.06773

Sig. = .05, df. = 25  $t(25) = -2.225$   $p = .035$

An Independent Sample t-test was conducted to evaluate the hypothesis that there is no significant influence of surveillance on the creativity of primary school children. The test was



significant at  $t(25) = 2.225$ ,  $p = .04$ . Hence we reject the null hypothesis that surveillance has no significant influence on the creativity of primary school children. Surveillance has a significant influence on the creativity of primary school children. Pupils in the control group (Mean = 11.3, SD = 3.52) were more creative than the pupils in the experimental group (Mean = 8.7, SD = 2.54) which underwent surveillance.

### Hypothesis Two:

**Table 5: Descriptive statistics of the Evaluation experiment**

Evaluation expectation has no significant effect on the creativity of children.

Group Statistics						
	Group	N	Mean	Std. Deviation	Std. Error	
measure of creativity	Experimental Group	15	7.2333	1.32107	.34110	
	control group	16	8.4063	1.60436	.40109	

**Table 6: Independent t-test of the Evaluation experiment**

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
measure of creativity	Equal variances assumed	.075	.787	-2.213	29	.035	-1.17292	.52990	-2.25668	-.08915
	Equal variances not assumed			-2.228	28.545	.034	-1.17292	.52652	-2.25051	-.09532

Sig. = .05, df. = 29,  $t(29) = -2.213$ ,  $p = .04$

An Independent Sample t-test was carried to test the hypothesis that there is no significant effect of evaluation on the creativity level of primary school children. The test was significant at  $t(29) = 2.213$ ,  $p = 0.4$ . Hence we reject the null hypothesis that there is no significant effect of evaluation on the creativity of students. Evaluation significantly lowers the creativity level of primary school children.

## DISCUSSION

From research question one we discover that surveillance made the pupils to freeze momentarily, they were also a bit distracted and constantly looking up to see if the person carrying out surveillance was watching them by slowing down progress. Some of the children were jittery and uncomfortable. By contrast the children in the control group seemed very much at ease as they carried out their work. This is supported by the assertion of Ridour (2014) that surveillance seems to cause disruption of the thoughts of the individual being surveyed. This may be due to the fact that the persons being surveyed expect to be evaluated and hence are under pressure to measure up to expectation. According to Beghetto (2005, p 260) “if students feel pressured by evaluation, surveillance, monitoring, and other salient features of assessment, their willingness to express creativity will suffer”.

From Research question two, it was observed that evaluation expectation made learners more focussed while performing their creative works. However, the focus did not translate to increased creativity. This can be observed from the means cores of the children in table five, the experimental group that had the expectation of evaluation had a mean score of 7.33, while the control group had a mean score of 8.41.

From research question three and hypothesis one, it was found that surveillance has a significant negative effect on the creativity of primary school pupils. The result shows that there was a reduction in the mean value for creativity of the experimental group due to surveillance. This result is in line with the findings by Amabile, Goldfarb and Brackfield (2009), that surveillance has a negative effect on the creativity of individual's.

Findings from Research question four, hypothesis two, revealed that evaluation has a significant negative effect on the creativity of primary school children. Children that worked with the expectation of evaluation had a lower mean score than those that worked without the expectation of evaluation. Hennessey (2001) stated that, among all the killers of intrinsic motivation and creativity identified by research, expected evaluation is the single most deleterious extrinsic effect. This he assumed to be due to the fact that expectation of evaluation seemed to combine certain aspects of all other killers of creativity. This finding also aligns with the findings of Bryon, Khazanchi and Nazarian (2010) that high social evaluative conditions reduce creativity.

### Implication to research and Practice

1. There should be a reduction of surveillance on children while they are carrying out creative arts and other works in school and at home. The children should be given the freedom to use their imagination and creative thinking abilities.
2. The value of evaluation should be minimised in the primary schools and pupils should be allowed to carry out their school work without the expectation of evaluation, especially in creative arts.

## CONCLUSION

1. There is a significant effect of surveillance on the creativity of primary school pupils.

2. There is a significant effect of evaluation expectation on the creativity of primary school children

### Future Research

1. This research should be replicated in other parts of Africa. It should also be carried out among other age groups.
2. A research of a similar nature should be carried out in Nigeria and other African countries; on other killers of creativity that have been identified such as; reward, competition, pressure, restriction of choices and over-control also identified by Amabile and Hennessey in Wilson (2018).

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