

**Impacts of Demographic Variables on Creativity Fostering Behaviour Among Undergraduates in Ahmadu Bello University, Federal College of Education, Kontagora Campus**

**Dr Sunday G. Olawale**  
osunday35@yahoo.com

&

**Dr Olubanke A. Olajo**  
olaojobanke@gmail.com

&

**Mrs Asiyanbi Mutiat**  
mutiatasiyanbi@gmail.com

&

**Miss. Ekeh Augustina Ngozi**  
anndw30@gmail.com

**Abstract**

*The study investigated impacts of demographic variables on creativity fostering behaviour among undergraduates of Ahmadu Bello University, Kotangora Campus. Creativity fostering behaviour is the major responsibility of classroom teachers being a model to learners. The research design was descriptive ex post facto type with a sample of 115, teacher's creativity fostering behaviour scale (TCFBS) by Olawale (2008) was adopted, three null hypotheses were significant data obtained were analysed using descriptive and inferential statistics. Finding revealed that there was significant difference in the scores of ABU undergraduate students in teachers creativity fostering behaviour scale (TCFBS) based on gender, while there was no significant in the marital status and teaching experience hence, it was concluded and recommended that teachers and parents are two banks in individual's life just as breathing is essential to survival, therefore stakeholder should promote open communication, mutual respect and creative advice to build and foster creative behaviour of our youths as they are full of energy, ideas, imagination and creativity. Lastly, useful suggestions were preferred.*

**Keywords:** Demographic variables, creativity fostering behaviour

**Introduction**

Teachers play important roles in creativity fostering process based on the explanations and research findings in the literature. Although the argument exists for long that whether creativity can be increased, there seems to be a consensus view within the realm of education that creativity is amenable to teaching (Amabile, 1996; Baer & Kaufman, 2006; Craft, 2000; Cropley, 1992; Fryer, 1996; James, Lederman, & Vagt Traore, 2004; Kaufman & Beghetto, 2009; Wilson, 2005). The attempt of

fostering creativity through training was given more attention in the mid twentieth century, when psychometric researchers put efforts in extending and measuring individual's creativity.

Interestingly, Baer and Kaufman (2006) revealed that students were more excited about the potential to excel and less worried about the possibility of failure. On the other hand, according to Friedman and Forster (2001) when the environment provide the penalties for failure, students become more prevention focused. They become less creative in their work. Apart from learning environment, literature suggested that study of creativity and innovation among university students differed according to place of origin, gender and ethnicity. For example, study found that male students from the suburban and rural areas were more curious and desire to try to new things than the female students. On the other hand, Kazerounian (2007) found in their study that there was no difference between male and female students on each component of creativity namely fluency, originality and creativity motivation.

Teachers carry the responsibility to provide models in thinking differently and change thinking styles of students by encouraging creativity in the best available manner. The most crucial part of enhancing creativity is related to teachers' attitudes and behaviours towards students (San, 2011), identified that creativity is hindered more by teachers compared to parents considering the reasons associated with children, their families, teachers and schools in terms of fostering creativity. Teacher candidates also think that teachers play an important role in fostering creativity in students. Chambers found that practices by teachers such as (a) informal classroom arrangements, b) being well prepared for classes, c) openness to non-traditional ideas and originality and rewarding creativity and d) ensuring student participation foster student creativity. Students consider these types of teachers more appropriate for teaching, believe that they do their jobs better and regard them as challenging teachers who are eager and intellectual (cited in Fasko, 2001). Fleith's (2000) study emphasized the effectiveness of creativity fostering teacher behaviours such as not setting too many rules and not giving too much homework, providing students with alternatives, giving them opportunities to reveal their creativity, accepting students as they are and developing their self-confidence.

### **Statement of the Problem**

Several studies have attempted to examine the ways in which teacher's foster creativity in the classroom, but none have used a mixed-methods design to measure teacher behaviours, and further scale and triangulate those results with interviews and classroom observation. Previous work on this topic indicates that there is a significant gap in our understanding of demographic variables of teachers in impacting creativity fostering behaviour, and that many teachers misunderstand or hold negative perception about creative students. Whether or not these misunderstandings exist in the minds of teachers is unknown, as no investigation of this sort has been published. In order to improve education and promote children's

opportunities to nurture their creativity, it is first critical to develop an understanding of teachers' perceptions and cognate teachers' experience concerning how creativity is fostered.

Though a full exploration of 21st skills falls outside the scope of this report, creativity and innovation fall within the parameters of the skills students required to be successful as teachers. Skills associated with creativity allow student to use, create, refine, analyze, and evaluate a wide range of ideas in order to improve and maximise creative efforts. In the 21st century skills include: communicating effectively, responding to new perspectives, and recognising failure as an opportunity to learn. Creativity is a cyclical process of small successes and frequent mistakes. In order to prepare students to be successful in the future, school administrators and teachers must understand and prioritize opportunities that allow students to become self-directed and creative learners, capable of independent work and clear communication.

### **Purpose of the Study**

This study aims to examine impact of demographic variables on creativity fostering behaviours among undergraduate students in Ahmadu Bello University, while the following specific objectives will be addressed.

- To examine the gender difference in creativity fostering behaviour?
- To investigate the differences between single and married creativity fostering behaviours
- To determine the differences in creativity fostering behaviours between cognate experience and non cognate experience in teaching

### **Review of literature**

Previous studies revealed that creativity can be taught and learned, According to James (2004) creative educators will be most successful when they use their personal intelligences to choose projects that both fit their own values and students needs and interest. On the other hand, Kazerounian and Foley (2007) reported a study done in Taiwan that integrates the teaching of creative problem solving into a sample mechanical engineering classroom. The students were required to use Wallas's four stages of creative problem solving which include four processes namely preparation (research on the problem), incubation (leaving the problem in learners' mind for some time), illumination (when the solution emerges and becomes clear), and verification (verifying that it works). However, findings revealed that students perceived that their curiosity and ambition had increased, but their instructors reported negatively where they believed that their students might understand the theories and procedures they learned in class, but are unable to transfer it to the design of the project. Other research suggested that an engineering education may suppress creative personality characteristics but engineers can unleash this innate creativity in the right environment (Kazerounian and Foley,

2007). In another study which was carried out by Douglas Wilde of Stanford University, concluded that engineering education has been shown to inherently block creative potential (Wilson, 2005). They also concluded that engineering education might be suppressing creativity even in naturally creative people. However, creative potential can be unleashed in the right environment. Studies showed that there is also a relationship between learning environment and creativity. Amabile (1996) showed that learning environment which was manipulated with acceptable risky behaviour, hence, students' creativity increased.

Interestingly, Friedman and Foster (2001) revealed that students were more excited about the potential to excel and less worried about the possibility of failure. On the other hand, according to Friedman and Forster (2001) when the environment provide the penalties for failure, students become more prevention focused. They become less creative in their work. Apart from learning environment, literature suggested that study of creativity and innovation among university students differed according to place of origin, gender and ethnicity (Deary et al, 2007). For example, study found that male students from the suburban and rural areas were more curious and desire to try to new things than the female students.

On the other hand, Kazeronian (2007) found in their study that there was no difference between male and female students on general creativity tests. There was also no significant difference between male and female students on each component of creativity namely fluency, originality, flexibility and creativity motivation.

### **Hypotheses**

There is no significant difference between female and male teachers in terms of their creativity fostering behaviours.

There is no significant difference in creativity fostering behaviour between single and married

There is no significant difference in creativity fostering behaviour between undergraduates with cognate teaching experience and undergraduate without cognate teaching experience.

### **Research Design**

The design of this study is descriptive survey research design of ex-post facto type. This design was used by the researcher because there was no manipulation of the variables during the course of this study rather they were measured through the collection of data based on the subject's response on the questionnaire. The independent variables for this study demographic variables (gender, marital status and undergraduate with teaching experience and undergraduate without teaching experience) while the dependent variables is the creativity fostering behaviour.

### **Population**

The population for this research consists of all undergraduates of Ahmadu Bello University.

### Sample and Sampling Technique

Participants were randomly selected among undergraduate students of ABU. A simple random sampling technique was used to select a sample of 115.

### Instrumentation

Teacher's Creativity Fostering Behaviour Scale (TCFBS) by Cropley (1997) and later employed by Soh (2000) and Olawale (2008). It contains nine dimensions of teacher's creativity fostering behaviours. It is divided into four parts. Part one is designed to tap respondents demographic information. Part two contains instructions for respondents. Part three involves paper-pencil instrument in which the respondent (Teacher or Trainer rate him or herself and part four is for official use only.

### Procedure for Data Analysis

Descriptive and inferential statistics was used for data analysis. This includes frequencies and percentages. T-test for independent samples will be used to test the hypotheses in this study.

## TFCBS (FCE KOTANGORA)

### DESCRIPTIVE STATISTICS

#### Frequency Table

#### YEAR RANGE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO COGNATE	67	58.3	58.3	58.3
	COGNATE	48	41.7	41.7	100.0
	Total	115	100.0	100.0	

Out of the total of 115 respondents, 67 (58.3%) are with no cognate experience, while the remaining 48 (41.7%) are with cognate experience.

#### SEX OF RESPONDENTS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALE	72	62.6	62.6	62.6
	FEMALE	43	37.4	37.4	100.0
	Total	115	100.0	100.0	

From the total of 115 respondents, 72 (62.6%) are Male, while the remaining 43 (37.4%) are female.

**MARITAL STATUS OF RESPONDENTS**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SINGLE	62	53.9	53.9	53.9
MARRIED	53	46.1	46.1	100.0
Total	115	100.0	100.0	

Out of the total of 115 respondents, 62 (53.9%) are single while the remaining 53(46.1%) are married.

**INFERENTIAL STATISTICS**

**T-Test**

**Group Statistics**

	SEX OF RESPONDENTS	N	Mean	Std. Deviation	Std. Error Mean
TEACHER'S CREATIVITY FOSTERING BAHAVIOUR SCALE	MALE	72	137.17	48.576	5.725
	FEMALE	43	157.28	35.070	5.348

**Hypothesis 1**

H<sub>0</sub>: There is no significant difference in the scores of ABU undergraduate students in Teacher's Creativity Fostering Behaviour Scale (TCFBS) based on gender.

H<sub>1</sub>: There is a significant difference in the scores of ABU undergraduate students in Teacher's Creativity Fostering Behaviour Scale (TCFBS) based on gender.

**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	
									Lower	Upper
TEACHER'S CREATIVITY FOSTERING BAHAVIOUR SCALE	Equal variances assumed	3.500	.064	-2.369	113	.020	-20.112	8.488	-36.929	-3.296
	Equal variances not assumed			-2.567	108.851	.012	-20.112	7.834	-35.640	-4.585

### Decision

The homoscedasticity test significant value of 0.064 suggests the assumption of (equal variance) Homoscedasticity and the significant (2-tailed) value of 0.020 suggests the rejection of the null hypothesis and it was concluded that there is a significant difference in the scores of ABU undergraduate students in Teacher's Creativity Fostering Behaviour Scale (TCFBS) based on gender.

### T-Test

Group Statistics

	MARITAL STATUS OF RESPONDENTS	N	Mean	Std. Deviation	Std. Error Mean
TEACHER'S CREATIVITY FOSTERING BAHAVIOUR SCALE	SINGLE	59	145.63	49.981	6.507
	MARRIED	52	142.37	40.168	5.570

### Hypothesis 2

$H_0$ : There is no significant difference in the scores of ABU undergraduate students in Teacher's Creativity Fostering Behaviour Scale (TCFBS) based on Marital Status.

$H_1$ : There is a significant difference in the scores of ABU undergraduate students in Teacher's Creativity Fostering Behaviour Scale (TCFBS) based on Marital Status.

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	
									Lower	Upper
TEACHER'S CREATIVITY FOSTERING BAHAVIOUR SCALE	Equal variances assumed	1.611	.207	.376	109	.708	3.262	8.684	-13.949	20.472
	Equal variances not assumed			.381	108.121	.704	3.262	8.566	-13.717	20.240

**Decision**

The homoscedasticity significant value of 0.207 suggests the assumption of (equal variance) Homoscedasticity and the significant (2-tailed) value of 0.708 suggests the non-rejection of the null hypothesis and it was concluded that there is no significant difference in the scores of ABU undergraduate students in Teacher's Creativity Fostering Behaviour Scale (TCFBS) based on Marital Status.

**T-Test**

**Group Statistics**

	YEAR RANGE	N	Mean	Std. Deviation	Std. Error Mean
TEACHER'S CREATIVITY FOSTERING BEHAVIOUR SCALE	NO COGNATE	67	150.97	39.879	4.872
	COGNATE	48	135.92	50.272	7.256

**Hypothesis 3**

H<sub>0</sub>: There is no significant difference in the scores of ABU undergraduate students in Teacher's Creativity Fostering Behaviour Scale (TCFBS) based on Teaching Experience.

H<sub>1</sub>: There is a significant difference in the scores of ABU undergraduate students in Teacher's Creativity Fostering Behaviour Scale (TCFBS) based on Teaching Experience.

**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	
									Lower	Upper
TEACHER'S CREATIVITY FOSTERING BEHAVIOUR SCALE	Equal variances assumed	4.369	.039	1.789	113	.076	15.053	8.414	-1.617	31.724
	Equal variances not assumed			1.722	86.423	.089	15.053	8.740	-2.320	32.427



## **Decision**

The homoscedasticity significant value of 0.039 suggests the assumption of (equal variance) Homoscedasticity and the significant (2-tailed) value of 0.076 suggests the non-rejection of the null hypothesis and it was concluded that there is no significant difference in the scores of ABU undergraduate students in Teacher's Creativity Fostering Behaviour Scale (TCFBS) based on Teaching Experience.

## **Discussion of Findings**

Findings show that 58.3% of the participants are with no cognate experience among which male respondents outweigh. Female respondent as 62.6% and 37.4% respectively invariably, male respondents demonstrated high level of creativity fostering behaviour meaning there was a significant difference in the scores of ABU undergraduate students creativity fostering behaviour scale (TCFBS) base on gender.

However, hypothesis two suggest the non-rejection of the null hypothesis and it was concluded that there was no significant difference in the scores of ABU undergraduate students in Teacher's Creativity Fostering Behaviour Scale (TCFBS) based on marital status meaning marriage does not limit your creative ideas but added advantage this is supported by Lin (2011) creative educators will be most successful when they use their personal intelligence to choose project that both fit their own values and students needs and interest.

Lastly, there was no significant difference in the score of ABU undergraduate students in Teacher's Creativity Fostering Behaviour Scale (TCFBS) based on teaching experience hence it was concluded that with or without teaching experience a creative person is a creative person, creativity is not determined by the worth of teaching experience as opined by Amabile (1996) that learning environment manipulated with acceptable risky behaviour increases students creative behaviour.

## **Suggestion and Recommendations**

Teachers and parents are two banks in individual's life just as breathing is essential to survival. Open communication, mutual respect and creative advice are the best ways to build and foster creative behaviour in individuals as youth to today is full of energy, ideas, imagination and creativity, so one need to enhance their creativity there are certain ways to foster creativity in undergraduates such as

- (1) As part of learning: Embrace creativity as part of learning. Teachers and parents must always encourage creativity of an individual
- (2) Adopt most effective strategies: Make your class interesting by using story session, live examples, ideas like a mini lab kit for chemistry class to reduce the gap between theory and practical
- (3) Creation from waste: Every child has a few old toys, ask them to create something new from these.
- (4) Organise programmes: Participate in or create a programme to develop

- creative skills. Parents can organise a small think quest even at home, like what kind of materials is used for curtains and other useful things at home.
- (5) Analytical thinking: Standardise tests do a great job of measuring convergent thinking that includes analytical thinking or logical answers with one correct response. Divergent thinking considers how a learner can use different ways to approach a problem. It requires using association and multiplicity of thought assignments should be designed in a way that considers types of thinking models.
  - (6) Encourage curiosity: Consider what is important to students. Student's interest are a great place to start on what drives their own thinking and find aspiration from their world. Creativity is intrinsic in nature, it is an instinctual instinct, it is not all about good ideas but to make good ideas happen.

### **Conclusion**

Creativity comes from imagination and open communication. It is fostered among undergraduates. The quality of time spent in fostering creative behaviour is like investing money which brings more interest. In the field of education, this approach works towards developing the much required 21st century skills in every individual which equips them with the tools to be more aware and informed of the world around, believing and realising the importance of their roles in shaping the world and take action towards building a more desirable creative behaviour leading to a more sustainable future.

### **References**

- Amabile, T. M. (1996). *Creativity in context*. Boulder: Westview Press.
- Bear, J., & Kaufman, J. C. (2006). *Creativity research in English-speaking countries*. In J. C. Kaufman, & R. J. Sternberg (Eds.), *The International handbook of creativity*. New York, NY: Cambridge University Press.
- Bramwell, G., Reilly, R. C., Lilly, F. R., Kronish, N. & Chennabathni, R. (2011). Creative teachers. *Roeper Review*, 4, 228-238.
- Burke C. (2007). Inspiring spaces: creating creative classrooms'. *Curriculum Briefing* 5(2):35-39.
- Craft, A. (2000). *Creativity across the primary curriculum: Framing and developing practice*. London: Routledge.
- Cropley, A. J. (1992). *More ways than one: Fostering creativity*. Norwood, NJ: Ablex Publishing Corporation.

- Esquivel, G. B. (1995). Teacher behaviours that foster creativity. *Educational Psychology Review*, 7, 185-201. doi:10.1007/BF02212493
- Fleith D. (2000). Teaching and student perceptions of creativity in the classroom environment. *Roeper Rev.* 22(3): 148-154.
- Friedman, R. and Forster, J. (2001). The effects of Promotion and Prevention Cues on Creativity. *Journal of Social. Psychology*, 81(6), 1001-1013
- Fryer, M. (1996). *Creative teaching and learning*. London: Paul Chapman Publishing Ltd.
- James, V., Lederman, G. R., & Vagt-Traore, B. (2004). Enhancing creativity in the classroom. In M. Orey (Ed.) *Emerging perspectives on learning, teaching and technology*. URL (last checked 8 May, 2006) <http://www.coe.uga.edu/epltt/creativity.htm>
- Kaufman, J. C., & Beghetto, R. A. (2009). Beyond big and little. The four c model of creativity *Review of General Psychology*, 13, 1-12.
- Kazerounian, K and Foley, S. (2007) Barriers to Creativity in Engineering Education: A Study of Instructors and Students Perceptions *Journal of Mechanical Design*, 129/761
- Puccio, G. J., & Gonzalez, D. W. (2004). Nurturing creative thinking: Western approaches and Eastern issues. In S. Lau, A. N. N. Hui, & G. Y. C. Ng (Eds.), *Creativity: When East meets West*. Singapore City: World Scientific.
- Runco, M. A., & Chand, I. (1995). Cognition and creativity. *Educational psychology review*, 7, 243-267.
- San I. (2011). Fundamental concepts. A. Ozturk (Ed.), *Creativity in Pre-school* (p-3-16). Eskisehir: Anadolu University Open Education Faculty Publications, No: 1208.
- Wilson, A. (Ed.) (2005) *Creativity in primary education: Theory and practice* (achieving QTS cross-curricular strand). Exeter: Learning Matters Ltd.
- Yu-Sien Lin, Y-S. (2011). Fostering Creativity through Education – A Conceptual Framework of Creative Pedagogy. *Creative Education* 2011, 2(3), 149-155.