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## **An effect of creativity and intelligence on experiential learning of rural female student at secondary level**

**Saumya Tripathi and Kripa Shankar Yadav**

Faculty of Teacher Education

Nehru Gram Bharati (Deemed to be university), Prayagraj, U.P.

E-Mail: [saumyatripathi88912@gmail.com](mailto:saumyatripathi88912@gmail.com)

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### **Abstract**

*In rural schools where educational resources and facilities may be scarce, it is important to understand the factors that influence learning. Both creativity and intelligence can make a significant contribution to improving experiential learning. This research focuses on the effects of these variables on experiential learning. Focusing on rural female students, the study aims to highlight the effect of creativity and intelligence on the experiential learning of these students. The t-test has been used as a statistical tool in the research. The results of the study show that both creativity and intelligence variables positively influence experiential learning. On the basis of which it can be said that creativity and intelligence have a significant effect on the experiential learning of rural female students at the secondary level.*

**Keyword:** *Experiential Learning, Secondary Education, Rural Education, Creativity, Intelligence, Rural Female Students, Learning Process.*

### **Introduction**

The role of experiential learning during students' educational development is widely recognized, especially in rural communities, where resources and infrastructure may be scarce. In secondary education, experiential learning is extremely important in students' ability to connect theoretical knowledge and its practical application, which promotes more in-depth understanding and skill building. Among other factors involved in such learning, creativity and intelligence are most important as key attributes in determining how students approach their learning experiences. In rural areas, where learning resources for women are often scarce and traditional teaching methods may not be as effective, experiential learning can become an important tool. Intelligence for rural female students can be reflected in how they are oriented in processing

information, solving real problems, and connecting learning content in class to the world around them. This paper investigates the creativity and intelligence effects on experiential learning of rural female learners at the secondary school level. This study attempts to generate ideas about how teachers' classroom teaching practices can be adapted to better serve these students. This study attempts to highlight the important role of creativity and intelligence in overcoming educational barriers faced by rural female students and in contributing to their academic and personal development and in promoting experiential learning.

### **Need and Importance of the study**

The motivation for this study is driven by the growing awareness of the problems experienced by rural female students at the secondary education level, when lack of access to educational materials, traditional pedagogical approaches, and social barriers can affect the learning experience. This study may hold significance for rural female students who are often not comfortable developing these abilities through traditional schooling. Creativity and intelligence provide the cognitive foundations that are needed to improve experiential learning for problem-solving, critical thinking, and understanding abstract ideas. If creativity and intelligence are brought into harmony, they alone can contribute significantly to the power of experiential learning, helping learners gain a deeper understanding of the more conceptual aspects of subjects and use them to solve real-world problems. What makes this study novel is the opportunity to fill the gaps in the educational journey of rural female students. To know what strategies can be put into practice to meet the needs of these types of learners, the study focuses on understanding the effects of creativity and intelligence on experiential learning and discusses mechanisms that educational practices can adopt to make it more useful for this learner category. Additionally, the results can be used to formulate policies about measures to enhance the quality of education in rural areas, especially for disadvantaged female students who are further facing gender-based barriers.

### **Review of Related Literature**

**United Nations (2024)** describes the importance of creativity on World Creativity and Innovation Day (21 April), saying that there is also no single definition of the creative economy. It is an evolving concept which builds on the interplay between human creativity and ideas and intellectual property, knowledge and technology.<sup>i</sup>

**Chakraborty, Ranita (2023)**, found in her research that a negative

relationship between Internet Usage and creative Fluency and creative Flexibility among college students. In the case of both male and female students, high Internet Usage caused a decrease in their Creativity with respect to Fluency and Flexibility. On the contrary, Internet Usage levels had no relationship with the creative Originality among college students thereby proving that Originality depends more on individual and psychological factors.<sup>ii</sup>

**Ali, Yasser (2023)** describes that a student's academic performance and ability to acquire new abilities will benefit from having effective study habits. If students adopt good study habits, it will also help in enhancing cognitive abilities, so it also helps in improving general intelligence.<sup>iii</sup>

**Soni, Sneha (2020)** found in her conclusion that, there is a negligible correlation between the intelligence and problem solving ability of adolescent students, i.e. the intelligence of adolescents does not affect problem solving ability. A medium correlation was found between the intelligence and creativity of adolescent students, i.e. the intelligence of adolescent students affects creativity to some extent.<sup>iv</sup>

**Srivastava Shilpi (2013)** The level of creativity of high achieving boys is higher than those of the low achieving boys in science. The level of creativity of high achieving girls are significantly higher than those of low achieving girls. The level of creativity of high achieving students (both boys and girls) are significantly higher than those of low achieving students. The mentioned results clearly indicate that creativity levels of high achievers are higher in comparison to those of low achievers. It may be concluded that creativity plays a very important role in achievement in science subjects.<sup>v</sup>

### **Research Gap**

Research on the influence of creativity and intelligence on experiential learning in the context of rural female students at the secondary education level is limited. Although the amount of research on creativity, intelligence and experiential learning in general education is steadily increasing, the context of rural female students has been inadequately addressed. This lack of evidence is particularly evident in the literature on the specific educational problems faced by rural female students, such as lack of access to resources, socio-cultural barriers and gender disparities in educational outcomes. Furthermore, despite the fact that experiential learning has been considered an efficient method of teaching, additional research is needed on its application in rural, gender contexts. And there is a lack of research on the interaction between

creativity and intelligence and experiential learning in the context of female education in rural settings, and this study attempts to fill this gap.

### **Definition of the terms used**

**Creativity:** According to 'Guilford', "Creative thought means divergent thinking and uncreative means convergent thinking is measured by means of intelligence tasks which includes items like remembering recognition and manipulation of same concrete material". In this research creative students performances based on their mentality by which of each one of persons have some novelty of work and tendencies or a thoughts of an new ideas development.

**Intelligence:** According to 'Binet', "Intelligence is judgment or Common sense, initiative, the ability to adapt oneself and again to judge, well understand well, reason well these are the essentials of intelligence". It is the ability to understand their problems and solving through learning. It is ability of intellectual development powerfulness.

**Experiential Learning:** According to 'David A. Kolb with Ron Fry', "Learning is based on the ideas of the process of knowledge is creative transformation of experience". It is the process of learning by doing through engaging students in hands on experiences.

### **Research Questions**

- Does intelligence have a significant effect on the experiential learning of rural female students at the secondary level?
- Does creativity have a significant effect on the experiential learning of rural female students at the secondary level?

### **Objectives of the Study**

- To study the effect of Intelligence on experiential learning of rural female secondary level student.
- To study the effect of creativity on experiential learning of rural female secondary level student.

### **Null Hypothesis**

1. There is no significant effect of creativity on experiential learning of rural female secondary level student.
2. There is no significant effect of Intelligence on experiential

learning of rural female secondary level student.

## **Research Methodology**

### **Population**

The target population comprises female students of class 11th from rural areas of Prayagraj district of Uttar Pradesh. These students were selected from various schools to ensure representation from different demographic and educational backgrounds.

### **Sample and Sampling Method**

Random sampling proves to be a meaningful approach to find out how creativity and intelligence affect experiential learning. 100 rural female students of secondary level have been randomly selected as the sample in this study.

### **Research Tools and Statistics**

The research methods for this present study, which focuses on the influence of creativity and intelligence on experiential learning by urban female students of secondary level, will aim at a mixed-method design, collecting both quantitative and qualitative data. Quantitative data has been collected by administering standardized tests of creativity (Passi tests of creativity) and intelligence (Mishra and Pal's 'Test of general Intelligence'). For 'experiential learning' self made tools are used as research tool. T-test has been used to analyze the data.

### **Delimitation of the research**

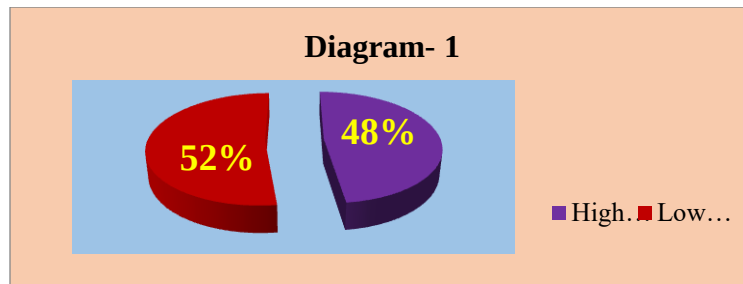
In this study, only female students from rural areas of Prayagraj district have been taken as sample. Class 11 students have been randomly selected in the sample.

### **Testing of Hypothesis**

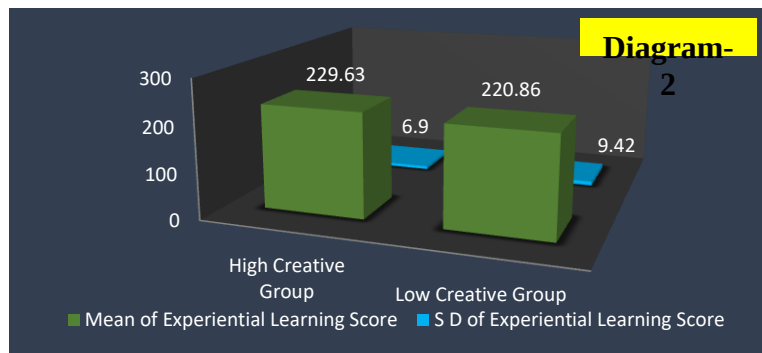
#### **Null Hypothesis-1**

**There is no significant effect of creativity on experiential learning of rural female secondary level student.**

To test null hypothesis-1, a group of rural female secondary level students were selected who were administered the creativity test. Now on the basis of creativity test, rural female students of secondary level have been divided into two groups high creativity level and low creativity level, the details of which can be expressed in Pie diagram-1 shown as follows-



On the basis of the data shown in Diagram No. 1, null hypothesis 1 can be tested. For this, diagram of the required data is arranged as follows in Diagram No. 2



The data obtained after calculation based on Diagram-2 can be shown as follows-

| ${}_1M$     | ${}_2M$                                                                  | ${}_2M \sim {}_1M$ | $\sigma_D$ | value -t |
|-------------|--------------------------------------------------------------------------|--------------------|------------|----------|
| 229.63      | 220.86                                                                   | 8.77               | 1.64       | 5.35     |
| Result      | $= : {}_oH\mu_1 - \mu_2 =$ Rejected at significance level <b>01.0</b>    |                    |            |          |
|             | $= : {}_aH\mu_1 - \mu_2 \neq$ Accepted at significance level <b>01.0</b> |                    |            |          |
| Table No. 1 |                                                                          |                    |            |          |

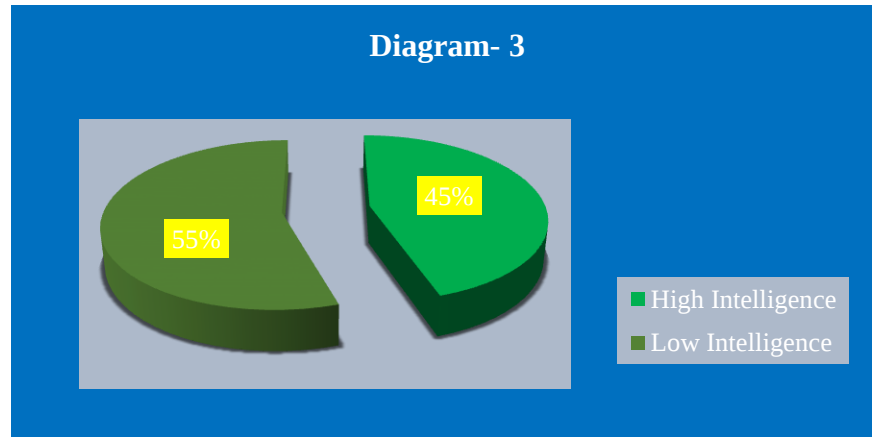
It is clear from the test of Hypothesis-1 that the observed difference in the mean scores of experiential learning of high and low creativity rural female students of secondary level is significant at 0.01 level of significance. On this basis, it can be said that creativity has an effect on the experiential learning of secondary level rural female students.

### Null Hypothesis-2

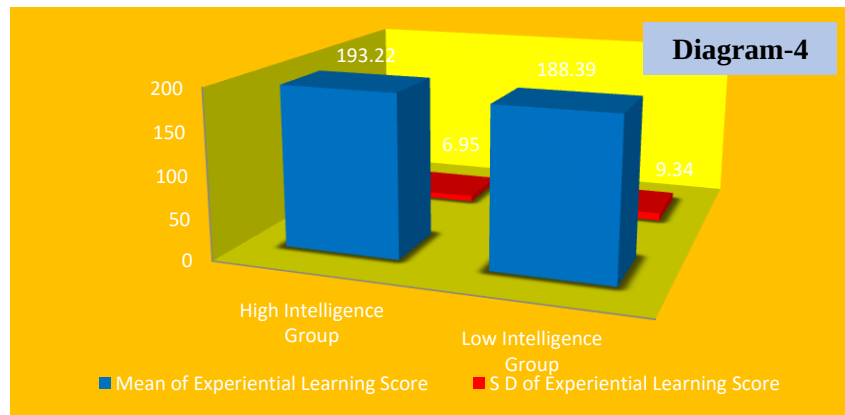
**There is no significant effect of Intelligence on experiential learning of rural female secondary level student.**

To test null hypothesis 2, a group of rural female secondary level students

were selected who were administered the Intelligence test. Now on the basis of Intelligence test, rural female students of secondary level have been divided into two groups high Intelligence level and low Intelligence level, the details of which can be expressed in Pie diagram-3 shown as follows-



On the basis of the data shown in Diagram No. 3, null hypothesis 2 can be tested. For this, required data is arranged as follows in Diagram No. 4



The data obtained after calculation based on Diagram-4 can be shown as follows-

| ${}_1M$     | ${}_2M$                                                                                                                                             | ${}_2M \sim {}_1M$ | $\sigma_D$ | value -t |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------|----------|
| 193.22      | 188.39                                                                                                                                              | 4.83               | 1.63       | 2.96     |
| Result      | $= : {}_oH\mu_1 - \mu_2 =$ Rejected at significance level <b>01. 0</b><br>$= : {}_aH\mu_1 - \mu_2 \neq$ Accepted at significance level <b>01. 0</b> |                    |            |          |
| Table No. 2 |                                                                                                                                                     |                    |            |          |

It is clear from the test of Hypothesis-2 that the observed difference in the

mean scores of experiential learning of high and relatively low intelligence rural female students of secondary level is significant at 0.01 level of significance. On this basis, it can be said that intelligence has an effect on the experiential learning of secondary level rural female students.

### Conclusion and suggestion

The influence of creativity and intelligence on experiential learning for girls in rural areas of secondary education is profound and complex. While fostering creativity gives these students the opportunity to interact with their environment in new and creative ways, bypassing the constraints of fewer resources and socio-cultural norms, intelligence allows them to apply knowledge in real life, leading to a more in-depth conceptual understanding of things and more useful problem-solving skills. For rural female students, who often face additional challenges in their educational journey, fostering both creativity and intelligence is essential to ensure their academic success and personal growth. Integrating these two factors into experiential learning activities can provide rural female students with the tools they need to advance academically, cope with challenges, and become more confident, competent learners.

Thus, educational interventions that foster the learning of both creativity and intelligence should be selected to improve the learning experiences of rural female students in the context of secondary education. In conclusion, studying the effects of creativity and intelligence on experiential learning of rural female students at the secondary level underscores the important role of both factors in shaping educational experiences and outcomes. Rural female students are often subject to specific challenges, including limited access to resources through social barriers and gender roles, which may hinder their academic and cognitive development. Experiential learning, which emphasizes problem solving in the real world, enhances students' creative cognition and intellectual capacity to draw on academic content in real-world situations.

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<sup>i</sup> <https://www.un.org/en/observances/creativity-and-innovation-day>

<sup>ii</sup> Chakraborty, Ranita (2023) "Relationship of internet usage with creativity, academic achievement and adjustment in college students" , Department of education, Diamond Harbour women's university, West Bengal, page- 285

<sup>iii</sup> Ali, Yasser (2023) "a study of general intelligence, personality characteristics and study habits among undergraduate students in relation to gender and locale" , school of education, central university of Kashmir, page- 143

<sup>iv</sup> Soni, Sneha (2020) "A Study of Intelligence, problem solving ability & creativity of the teenager students" Faculty of education, Tantia University, Sri Ganganagar Rajasthan, page- 241

<sup>v</sup> Srivastava Shilpi (2013) "A comparative study of Intelligence level, creativity, motivation and study habits among high and low achievers in science at senior secondary stage" , Department of Education, Dr. Ram Manohar Lohia Avadh University Faizabad,