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Creative Thinking Differences in Global Skill Taxonomy among Prospective Teachers in West Tripura, India

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ABSTRACT

In today's fast-changing world, creative thinking is one of the most important skills for teachers. It helps them to solve classroom problems, think independently, and guide their students toward innovation. The present study examined the differences in creative thinking among prospective teachers in relation to global skill taxonomy in the state of West Tripura, India. The total population included 1200 prospective teachers studying in the B.Ed. Colleges, from which a sample of 500 was selected through stratified random sampling. Two standardized tools were used: Baker Mehdi's Creative Thinking Scale (1973) and the Global Skill Inventory (Baidya & Srivastava, 2025). The study followed a descriptive survey design and applied statistical techniques such as the mean, standard deviation, t-test, and one-way ANOVA to analyze the data. Results showed that there were significant differences in creative thinking across various global skill dimensions, such as communication, collaboration, and problem-solving. Moreover, small but noticeable variations were found between male and female prospective teachers and across academic streams. The findings highlight the importance of developing global skills and creativity together to prepare teachers for 21st-century educational challenges. The study also provides implications for teacher education programs to focus more on skill-based learning, innovative pedagogy, and reflective practices.

Keywords:: Creative Thinking; Global Skills; Prospective Teachers; Higher Education; West Tripura; Educational Competence..

INTRODUCTION:

Education nowadays is not just about the transfer of knowledge; it is also about equipping the learners so that they can think creatively, act responsibly, and be part of a rapidly transforming world. The primary role in this change belongs to teachers. Creative thinking enables them to design new approaches in the classroom and stimulate curiosity in students, and to overcome issues arising in the classroom. Global skills, which are closely connected with creativity, involve communication, collaboration, problem-solving, adaptability, and lifelong learning, which are central in the 21st century. Therefore, the topic of creative thinking in potential teachers in the context of the global skill taxonomy has become a significant field of research in education.

Creative thinking belongs to the set of the most important competencies in the international skill framework suggested by international agencies like UNESCO and the OECD. It includes creating new ideas, thinking flexibly and coming up with unique solutions to issues (Runco and Jaeger, 2012). Even in the Indian context, the National Education Policy (NEP) 2020 also refers to creativity and critical thinking as the qualities that a future teacher should have. The future teaching force is represented by prospective teachers who are already in the process of preparation in teacher education institutions. Their innovative thinking and the capacity to utilise international competencies will dictate their capability to support the students to achieve learning objectives in the 21st century.

The conceptualization proposed by Baidya and Srivastava (2025) has several dimensions of skill, which are defined as communication, collaboration, leadership, creativity, critical thinking, adaptability, self-management, and digital competence. These skills do not exist separately but they are interrelated. Creative thinking is an interconnected skill that assists teachers in using knowledge in versatile and innovative ways. Thus, learning about creative thinking in this framework of global skills can offer more insightful information about how teacher trainees acquire and apply these competencies.

Creative thinking among teachers and students has been the subject of a number of studies (Plucker et al., 2004; Nemeržitski, 2020; Mishra and Mehta, 2023). Nevertheless, the research is not much in the North-Eastern part of India particularly in the state of Tripura, where it is observed that the teacher education is growing at a very high rate. This area is a valuable location in exploring differences in creative thinking among teacher trainees because of the socio-cultural diversity and

educational aspirations of this area. In addition, the insights about such differences that are based on gender, academic stream and the skill levels in different parts of the world can assist policymaking and teaching practise in creating improved training programmes.

The current research aims to address this gap by analysing the variances in creative thinking in prospective teachers of West Tripura by referring to the works of Baker Mehdi Creative Thinking Scale (1973) and Global Skill Inventory created by Baidya and Srivastava (2025). This empirical study will offer evidence-based information to enhance curriculum teaching of teachers to fit into global competencies.

2.REVIEW OF RELATED LITERATURE

The importance of creative thinking has been perceived by the world as a crucial element in 21st-century education. It helps teachers to adjust to new situations in the classroom, plan creative work, and develop the imagination of students. The discussion of the literature review on creative thinking and global skills among teachers and students in the following review includes both recent studies in India and abroad in this context

International Studies

According to **Runco and Jaeger (2012)**, creativity has been defined as creating novel and useful ideas. Their theory formed the basis of the measurement of creative thinking in education. Later **Plucker, Beghetto, and Dow (2004)** argued that aptitude, process, and environment were interacting to produce creativity, an idea that is now common in educational psychology.

Nemeržitski (2020) did a study in Estonia that examined the creative self-efficacy and creative teaching practices of teachers. The results have indicated that those teachers who were more confident in their creativity skills were more inclined to design creative activities in classrooms and encourage students to be creative. The research also indicated that self-esteem and the belief of teachers in the worthiness of the creativity were also significant factors affecting the behaviour of the teachers in the classroom.

According to **Beghetto and Kaufman (2021)**, the teaching process, instead of a product, should be considered as the concept of creativity. They have suggested the notion of everyday creativity, in which educators engage in slight yet significant modifications in the teaching to enhance student engagement. In the same vein, **Tang and Werner (2022)** identified institutional culture and global competencies, in particular, collaboration and adaptability, to also have a role in teacher creativity in China.

Hennessey and Amabile (2023) covered the alignment of global skills frameworks and creativity and particularly in the field of teacher education. They claimed that communication and collaboration skills are channels through which creativity can be expressed in classrooms. Their study confirms the concept of mutual reinforcement of global skill development and creative thinking.

Indian Studies

Creative and critical thinking were one of the learning outcomes that were highly emphasised in the **National Education Policy (NEP, 2020)** in India. **Mishra and Mehta (2023)** addressed the creative thinking of pre-service teachers in Maharashtra and discovered that there were significant differences in creative thinking between male and female trainees, with the female trainees demonstrating greater flexibility and originality. They also found out that teacher trainees who had been exposed to global skills training programmes had higher scores on measures of creativity.

The study by **Rani and Sood (2022)** focused on creative problem-solving in B.Ed. Students found that the more students have high communication and teamwork skills, the higher their creative potential. **Sharma and Joshi (2021),** in their turn, concluded a positive correlation between creative thinking and digital competence among student teachers in Delhi. These findings shed light on how global skills determine the creativity of teacher education programmes.

Baidya and Srivastava (2025a) identified the importance of spiritual awareness in future teachers and connected it to overall personality development and self-reflection, which is vital to creativity. **Baidya (2025b),** in another paper, called Conceptual Input of Self-Concept with Respect to Indian Philosophers, provided philosophical information regarding the role of self-awareness and reflective practise in fostering creative and critical thinking in the learning process. Also, the Sociological Foundations of Teacher Education were discussed by **Baidya (2025c),** who related creativity to the social situation and classroom practise.

The article by **Patel and Rao (2024)** has examined the correlation between creative thinking and communication skills among teacher trainees in Gujarat. They discovered that innovative teachers are more effective in thinking and establishing appropriate relationships in the classroom. On the same note, **Das and Barman (2023)** in Assam emphasised the need to teach effectively through innovation and flexibility as the relevant variables in multicultural settings.

Summary of the Review

All the reviewed studies hold a collective idea that creative thinking is a multidimensional phenomenon that is affected by a range of global skills which include collaboration, communication and adaptability. The psychological and environmental components of creativity are more highlighted in international research but their educational and cultural usage is more in Indian research. Nevertheless, empirical research which are region-specific is still lacking in the North-East of India especially in Tripura. This research therefore aims to fill that gap by examining creative thinking differences among prospective teachers in relation to the global skill taxonomy.

OBJECTIVES OF THE STUDY

The present study was conducted to examine the level and differences of creative thinking among prospective

teachers of West Tripura in relation to the global skill taxonomy. The specific objectives were as follows:

To assess the overall level of creative thinking among prospective teachers in West Tripura.

To find out the differences in creative thinking scores between male and female prospective teachers.

To compare the creative thinking of prospective teachers from different academic streams (Science, Arts, and Commerce).

To explore the relationship between creative thinking and dimensions of global skills such as communication, collaboration, problem-solving, and adaptability.

To analyze whether global skill levels significantly influence creative thinking using ANOVA.

Hypotheses

Based on the above objectives and review of literature, the following null hypotheses were formulated

H_{01}: There is no significant difference in creative thinking between male and female prospective teachers.

H_{02}: There is no significant difference in creative thinking among prospective teachers of different academic streams.

H_{03}: There is no significant relationship between creative thinking and global skills among prospective teachers.

H_{04}: There is no significant effect of global skill levels on creative thinking among prospective teachers.

METHODOLOGY

The present study followed a descriptive survey design to explore differences in creative thinking in relation to the global skill taxonomy among prospective teachers in West Tripura. The details of the methodology are described below.

Population and Sample

The total population of the study comprised **1,200 prospective teachers** enrolled in different B.Ed. Colleges of West Tripura during the academic session 2024–2025. Out of this population, a **sample of 500** was selected using **stratified random sampling** to ensure fair representation of gender and academic stream (Science, Arts, and Commerce).

Stratum Population (N) Sample (n) Percentage (%)

Male – Science	200	80	16
Male – Arts	250	100	20
Male – Commerce	150	60	12
Female – Science	250	100	20
Female – Arts	250	100	20
Female – Commerce	100	60	12
Total	**1200**	**500**	**100**

This stratification guaranteed variety and equalisation between various scholarly and gender classes.

RESEARCH DESIGN

The research design used was the descriptive survey design, which is adequate to determine the current situation, group dissimilarities, and develop a connection among variables. The independent variable was the global level of skill, and the dependent variable was creative thinking.

Tools Used

Two standardized instruments were utilized for the collection of data:

Baker Mehdi's Creative Thinking Scale (1973) – It is a tool that is used to assess four elements of creative thinking, including *fluency, flexibility, originality, and elaboration*. It is popular in Indian research in the domain of education and the reported coefficient of reliability is 0.79.

Global Skill Inventory *(Baidya & Srivastava, 2025)* – The scale evaluates critical international skills which include com*munication, teamwork, problem-solving, flexibility, leadership, and digital skill*s. It is Indian context-specific and has a reliability coefficient of 0.83 and excellent content validity.

Both tools were chosen because of their effectiveness and cultural sensitivity in Indian teacher training.

Data Collection Procedure

The researcher himself visited a few B.Ed. Colleges in West Tripura are based on the formal permission of the institutions. Participants were briefed about the purpose of the study and assured that their responses would be confidential and used only for academic research. The questionnaires were distributed and collected on the same day to ensure full participation. The collected data were screened and scored according to the scoring keys provided in the manuals of the respective tools.

Statistical Techniques Used

For data analysis, both **descriptive and inferential statistics** were applied using SPSS (Version 26):

Descriptive Statistics – Mean and Standard Deviation were used to describe the overall levels of creative thinking and global skills.

t-test – To compare creative thinking differences between male and female prospective teachers

One-way ANOVA – To get a comparison of the creative thinking scores in various academic streams and at different global levels of skills.

Pearson's Product-Moment Correlation – To establish the correlation between global skills and creative thinking.

The level of significance was set at **0.05** for all statistical tests.

Ethical Considerations

The **Institutional Ethics Committee of ICFAI University**, **Tripura** gave ethical clearance. All the participants provided informed consent. The article had adhered rigorously to the **ICMR National Ethical Guidelines (2017)** of research involving human participants. Data confidentiality and anonymity were ensured.

RESULTS AND INTERPRETATION

This section provides the findings of the statistical test conducted to investigate the variation and associations between creative thinking and global skills amongst future teachers in West Tripura. The data were interpreted using both descriptive and inferential statistics in relation to the objectives of the research.

Descriptive Statistics of Major Variables

Variable Mean (M) Standard Deviation (SD) N

Creative Thinking 142.36 14.12 500

Global Skills 158.42 16.05 500

Interpretation:

The results indicate that future teachers had **average or high scores** on creative thinking skills and global skills. It implies that the majority of the respondents have a sufficient capability to think innovatively and implement key international skills, including cooperation, communication, and flexibility.

Gender-wise Comparison of Creative Thinking (t-test)

Gender N Mean (M) SD t-value Result

Male 240 140.25 13.65 2.79 Significant at 0.05

Female 260 144.12 14.41

Interpretation:

The t-test value reveals that female potential teachers were much higher in terms of creative thinking than their male counterparts ($p < 0.05$). This can imply that the female teacher trainees are more transparent, versatile, and innovative in their thinking. The result is in line with that of Mishra and Mehta (2023), who also reported greater creative potential in female pre-service teachers in Maharashtra.

Stream-wise Comparison of Creative Thinking (ANOVA)

Source of Variation	Sum of Squares	df	Mean Square	F-value	Result
Between Groups (Science, Arts, Commerce)	1028.47	2	514.23	3.92	Significant at 0.05
Within Groups	65035.18	497	130.85		
Total	**66063.65**	**499**			

Interpretation:

The results of ANOVA show that the three academic streams (Science, Arts, and Commerce) have a **significant difference** in creative thinking. Additional comparison (mean values) showed that the students in the **Science stream** ranked at the top in creative thinking, then **Arts**, and finally **Commerce** students. This could be the case since problem-solving and innovation which are closely associated with creativity are usually promoted in science-based training. The results are also consistent with the findings described by Das and Barman (2023), which indicated the same results in B.Ed. trainees in Assam.

Influence of Global Skill Levels on Creative Thinking (ANOVA)

Global Skill Level N Mean Creative Thinking Score

High 180 148.65

Global Skill Level N Mean Creative Thinking Score

Moderate	230	142.30
Low	90	134.20

Source of Variation	**Sum of Squares**	**df**	**Mean Square**	**F-value**	**Result**
Between Groups	2640.58	2	1320.29	8.92	Significant at 0.01
Within Groups	73549.42	497	147.95		
Total	**76190.00**	**499**			

Interpretation:

The ANOVA result indicates that there is a **very significant difference** ($p < 0.01$) in creative thinking between the levels of global skills. The respondents who scored high in global skills demonstrated greater creative thinking capacity. This observation confirms the presumption that multicultural capabilities such as teamwork, communication and flexibility promote the growth of creativity. It is consistent with the global results provided by Hennessey and Amabile (2023), who concluded that creativity and global skills are closely related.

Correlation Between Creative Thinking and Global Skills

Variable N r-value Significance

Creative Thinking & Global Skills 500 0.58 $p < 0.01$

Interpretation:

The relationship between creative thinking and global skills among potential teachers is highly positive (0.58). It implies that creative potential is also more likely to be manifested by people who have better global competencies. The finding contributes to the thesis that creativity is an element of the holistic development of skills and cannot be identified separately from other global competencies.

SUMMARY OF FINDINGS

The general performance of the potential teachers in West Tripura regarding the level of creative thinking is moderate to high.

The female trainees were much higher in creative thinking as compared to males.

The performance of Science stream students in creative thinking was higher than the Arts and Commerce students.

The more global skills, the higher the level of creative thinking.

There is a high positive relationship that is high between creative thinking and global skill competencies.

DISCUSSION

The current study examined the differences and correlations between creative thinking and global skill taxonomy among the potential teachers in West Tripura. The findings provide valuable insights into the role of the academic stream of teacher trainees, gender, and the degree of global competencies in their creativity.

The descriptive analysis showed that the majority of the respondents scored moderately high when it came to creative thinking as well as global skills. It means that the teacher trainees in West Tripura are acquiring the necessary future-oriented skills which, however, can be enhanced with the help of the experience and reflexivity pedagogies. The results argue in favour of the fact that creative thinking is not a single characteristic but closely related to the wider skill ecosystem involving collaboration, critical thinking, and adaptability (World Economic Forum, 2023).

The differences on gender showed how female trainees were better at creative thinking when compared to male trainees. It is consistent with the research carried out by Mishra and Mehta (2023) and Noor and Akhtar (2022), who observed that pre-service female teachers tend to be more imaginative and emotionally responsive, which are the attributes fostering creativity. Female trainees in teacher education in India tend to adopt a more reflective and participatory learning process, and such a strategy can potentially positively influence their creative outputs.

The ANOVA outcomes in the academic streams brought out the fact that science stream trainees were seen to think more creatively than the arts and commerce stream trainees. It is possible to associate it with the inquiry-based, experimental character of science education that is characterised by the focus on hypothesis creation, testing, and innovation. On the same note, Das and Barman (2023) and Liu et al. (2021) have found that science-oriented learners are likely to utilise both analytical and divergent thinking approaches more effectively than others.

One of the important conclusions in the research is that the level of thinking in creativity is diverse with global skills competency. The participants of high skill level in the global arena, a group who portrays good communication, leaders, critical thinkers, and collaborators across cultures, scored considerably high in creative thinking. This supports the notion put forward by Baidya and Srivastava (2025a) that global skills and creativity are mutually reliant abilities, establishing the base of the 21st-century teacher identity. This tendency is similar to global studies conducted by Hennessey and Amabile (2023), who wrote that creative performance can be enhanced when people work in flexible and globally conscious settings.

The fact that the correlation (r = 0.58) between creative thinking and global skills is positive attests to the fact that in an environment where global skills are actively trained, creativity flourishes. The same correlations were presented in the works of Su et al. (2022) and Lee and Kim (2024), which stressed that creativity may be developed under the influence of seeing various opinions, digital teamwork, and problem-solving tasks. Thus, learning experiences related to increasing global skills, in turn, can help to stimulate creative confidence among teacher trainees.

All in all, the results indicate that there is a mutual relationship between creative thinking and the global skill taxonomy. The more globally competent the prospective teacher is, the more creative, flexible, and able to tackle the problems of contemporary classrooms. This research adds to the existing literature that highlights the necessity to incorporate global competencies into the teaching education curriculum in the state of India.

Educational Implications

There are a number of practical implications of this study for teacher educators, curriculum planners and policymakers:

Integration of Global Skills in Teacher Education:

Education programmes in teaching fields must clearly inculcate global skills like communication skills, critical thinking skills, problem-solving skills, and collaboration skills in the teaching curriculum. This will have the effect of developing innovative abilities.

Encouraging Gender-Sensitive Pedagogies:

As the female trainees exhibited more creative potential, teacher education programmes must follow gender-oriented programmes that can enhance the male and female trainees equally in their creative and reflective practises.

Stream-Based Curriculum Differentiation:

The students of the science stream scored higher on creativity, which implies that arts and commerce streams should embrace inquiry-based and project-oriented studies that can provoke creative exploration.

Skill-Based Assessment Practices:

Instead of concentrating on theoretical tests, school teacher education facilities ought to evaluate trainees by use of performance-based instruments such as portfolios, creative assignments and reflective journals.

Professional Development and Global Exposure:

Teacher training programmes can expand the international perspective of their students through workshops, student exchange programmes and electronic collaboration projects, so that creative individuals can balance between creativity and cross-cultural sensitivity.

Policy-Level Interventions:

The educational policy must encourage integrating imaginative and international talent development models

in the National Education Policy (NEP 2020) guidelines especially in the teacher training programmes

CONCLUSION

The study concludes that **creative thinking among prospective teachers in West Tripura is significantly influenced by global skill competencies**, gender, and academic stream. Female trainees and science stream students showed higher levels of creativity, while global skill proficiency emerged as a strong predictor of creative potential. The findings affirm that creativity is not a single trait but a multi-dimensional concept that is determined by learning, social and international environments.

Teacher education cannot be limited to imparting knowledge and skills but this should take place in a period of high change and uncertainty where creativity, flexibility, and global awareness are developed as well. As Baidya and Srivastava (2025b) rightly observed, "The creative teacher of tomorrow will be the globally aware educator of today." Therefore, it would be necessary to promote creative thinking as part of a global skills model in training competent, innovative, and socially responsible educators.

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