



## INNOVATIVE TEACHING PRACTICES FOR ENHANCING CRITICAL THINKING AND CREATIVITY AMONG STUDENTS

Noel Kispotta

Research Scholar

M.A (Edu) from (NSOU), M.Ed ( Central University of Kerala), UGC NET & WB SET

[leongaya@gmail.com](mailto:leongaya@gmail.com)

---

**DECLARATION:** I AS AN AUTHOR OF THIS PAPER /ARTICLE, HERE BY DECLARE THAT THE PAPER SUBMITTED BY ME FOR PUBLICATION IN THE JOURNAL IS COMPLETELY MY OWN GENUINE PAPER. IF ANY ISSUE REGARDING COPYRIGHT/PATENT/OTHER REAL AUTHOR ARISES, THE PUBLISHER WILL NOT BE LEGALLY RESPONSIBLE. IF ANY OF SUCH MATTERS OCCUR PUBLISHER MAY REMOVE MY CONTENT FROM THE JOURNAL WEBSITE. FOR THE REASON OF CONTENT AMENDMENT /OR ANY TECHNICAL ISSUE WITH NO VISIBILITY ON WEBSITE /UPDATES, I HAVE RESUBMITTED THIS PAPER FOR THE PUBLICATION.FOR ANY PUBLICATION MATTERS OR ANY INFORMATION INTENTIONALLY HIDDEN BY ME OR OTHERWISE, I SHALL BE LEGALLY RESPONSIBLE. (COMPLETE DECLARATION OF THE AUTHOR AT THE LAST PAGE OF THIS PAPER/ARTICLE

### Abstract

*The educational context today has made it even more crucial to think of innovative teaching methods because of the need to equip students with critical thinking and creativity. The traditional pedagogical approaches are being phased out, and are giving way to more learner-centered approaches to teaching and learning, which inspire learners to participate, work collaboratively, learn from experience, and solve problems. This current study seeks to investigate the impact of innovative teaching techniques to promote students' critical thinking and creativity in higher education institutions. The research design used was descriptive and quantitative with 150 students and 40 teachers as respondents who were obtained using structured questionnaires. The collected data was analyzed using statistical methods like percentage analysis, mean score analysis, ranking method and correlation analysis. The results have shown that the innovative teaching models like project-based learning, flipped classrooms, collaborative learning, gamification, and technology-integrated teaching have a great effect on students' analytical thinking, creativity, independent learning, decision-making ability and classroom participation. From the results of the correlation analysis, it is found that there is a very high positive correlation between innovative teaching practices and students' critical thinking and creativity. The study found that the use of innovative pedagogical techniques is vital in establishing interactive and effective learning environment for successful preparation of students for the challenges of today's academia, profession and society.*

**Keywords:** *Innovative Teaching Practices, Critical Thinking, Creativity, Student Engagement, Project-Based Learning, Experiential Learning.*



## 1. INTRODUCTION

One of the most valuable bases of personal, social, and economic growth is education. In the fast-paced 21st century world, the old teaching and learning techniques that only emphasize on memorization and passive learning can no longer be relied upon to support the changing demands of students. The contemporary educational system demands the methods of teaching that not only imparts knowledge but also equips the necessary skills of critical thinking, creativity, communication, collaboration and problem-solving skills. Consequently, new teaching practices have gained more significance in improving quality and effectiveness of education.

Innovative teaching practices are the new learner-based teaching practices which are modern and active teaching practices that engage learners in the learning process. The practices involve project-based learning, problem-based learning, flipped classes, gamification, collaborative learning, experiential learning, simulation-based learning, and technology-infused teaching. These techniques make students become active, investigate concepts on their own, critically analyse issues, and find innovative solutions. In contrast to the usual lecture-based approach, new methods of teaching are centered around the experiential and interactive learning spaces that allow students to become more engaged and understanding.

One of the most important higher-order cognitive skills in education is regarded as critical thinking. It helps students to reason, make rational judgments, solve complicated problems, and use the knowledge practically in real-life situations. In the same manner, creativity enables students to think in a creative way, come up with new ideas and adjust to the dynamic academic and professional world. Across the world, educational establishments are currently focusing on equipping the new generation of students with these competencies in order to meet the challenges of tomorrow and global competitiveness.

Technological integration in education has also been a boost in embracing innovative teaching practices. Digital learning, Smart classroom, artificial intelligence, Multimedia learning materials, and online cooperative learning have changed the traditional classroom into an interactive learning environment.



Such developments give students the chance to learn independently, explore, and learn actively. Even with the increased relevance of innovative pedagogy, most educational institutions continue to depend much on traditional teaching approaches that inhibit analytical and creative abilities of students. Thus, the necessity to investigate the impact of the innovative teaching practices on critical thinking and creativity of students arises.

### **1.1. Objectives of the Study**

The following objectives of the study are:

- To examine the role of innovative teaching practices in enhancing critical thinking among students.
- To analyze the impact of innovative teaching methods on students' creativity.
- To identify the most effective innovative teaching strategies used in educational institutions.
- To evaluate students' perceptions regarding innovative classroom learning approaches.

## **2. LITERATURE REVIEW**

**Almulla (2023)** tested the contribution of constructivist learning theory in improving critical thinking, creativity, and problem-solving skills of higher education students. The research highlighted that learner-centred pedagogy fosters engagement and learning, personal learning, and knowledge building. The results have shown that constructivist-based innovative teaching strategies have a positive impact on academic performance as the strategies enhance analytical thinking and a creative ability in students.

**CG (2024)** concentrated on different innovations in the teaching practices embraced in contemporary educational institutions. This research has identified the significance of technology-based teaching, learning by doing, use of flipped classrooms as well as interactive pedagogies in enhancing student engagement and learning outcomes. The study found that new teaching practices provide a productive learning process that promotes involvement, communication and advanced thinking abilities of students.



**Chashechnikova, et al. (2024)** researched the importance of innovative technologies in the formation of critical thinking among students. The study has highlighted that digital learning tools, collaborative platforms, simulation-based learning, and interactive teaching technologies have great potential in enhancing the reasoning skills, creativity, and decision-making skills of students. The research also indicated that incorporation of new technologies in classroom teaching boosts intellectual involvement and problem-solving skills of students.

**Dilekçi and Karatay (2023)** compared the effects of a 21st-century skills curriculum on creative thinking skills in students. The research determined that innovative educational practices, which emphasize on communication, collaboration, creativity and critical thinking, influence imaginative and innovative abilities of students positively. The researchers found that current pedagogical models could assist students in being more confident, independent, and creative learners who can find solutions to real-life issues.

### **3. RESEARCH METHODOLOGY**

This section describes the data collection, analysis and interpretation methods and procedures to investigate the effect of innovative teaching practices on students critical thinking and creativity.

#### **3.1. Research Design**

The research design used was descriptive and quantitative. The descriptive research design was employed to learn the current teaching practices and how effective they are in helping students to think critically and creatively. The quantitative methodology allowed the researcher to gather objective data of respondents and statistically analyse them to make meaningful conclusions.

#### **3.2. Nature of the study**

The research is empirical because it relies on primary data which is obtained by directly interviewing the respondents using structured questionnaires. The research explores the perception of students and teachers on innovative teaching strategies and their effects on the learning outcomes.



### **3.3.Sources of Data**

Both primary and secondary data were used for the study.

- **Primary Data:** Data collection was done using structured questionnaires that were administered to students and teachers.
- **Secondary Data:** Data were gathered through journals, books, research articles and other scholarly reports and internet.

### **3.4.Population and Sample Size**

Students and teachers of higher educational institutions were the population of the study. The study selected 190 respondents, who comprised:

- 150 students
- 40 teachers

### **3.5.Sampling Technique**

Convenience sampling method was used in the study to select respondents. The method was selected because it is easy to access and has participants available in the identified institutions of learning. The convenience sampling gave the researcher an opportunity to obtain the required data within the resources and time.

### **3.6. Research Instrument**

The main data collection instrument was a structured questionnaire. The questionnaire contained questions pertaining to the demographic profile of respondents, their awareness of innovative teaching practices, critical thinking, enhancement of creativity and the use of technology in learning. Respondents' opinions and perceptions were effectively measured using a five-point Likert scale of Strongly Disagree to Strongly Agree.

### **3.7. Data Collection Procedure**

The method of data collection will entail the provision of questionnaires both in physical and digital form to the respondents. The purpose of the study was explained to the respondents and

they were assured that their answers would not be disclosed and could only be used in academics. Adequate time was given to the respondents so that they could answer the questionnaire correctly.

### 3.8. Statistical Tools Used for Analysis

The data collected were sorted, tabulated and devoted to statistical analysis. The following techniques were used:

- **Percentage Analysis:** It is used to examine demographic features and the distribution of response.
- **Mean Score Analysis:** This is applied to the extent of agreement on the innovative teaching practices and their effect.
- **Ranking Method:** This is employed to rank various factors influencing critical thinking and creativity.
- **Correlation Analysis:** Correlation analysis was employed to determine the correlation between the variables of innovative teaching practices and student performance.

Data analyzed were provided in forms of tables and interpretations to understand.

## 4. RESULTS AND DISCUSSION

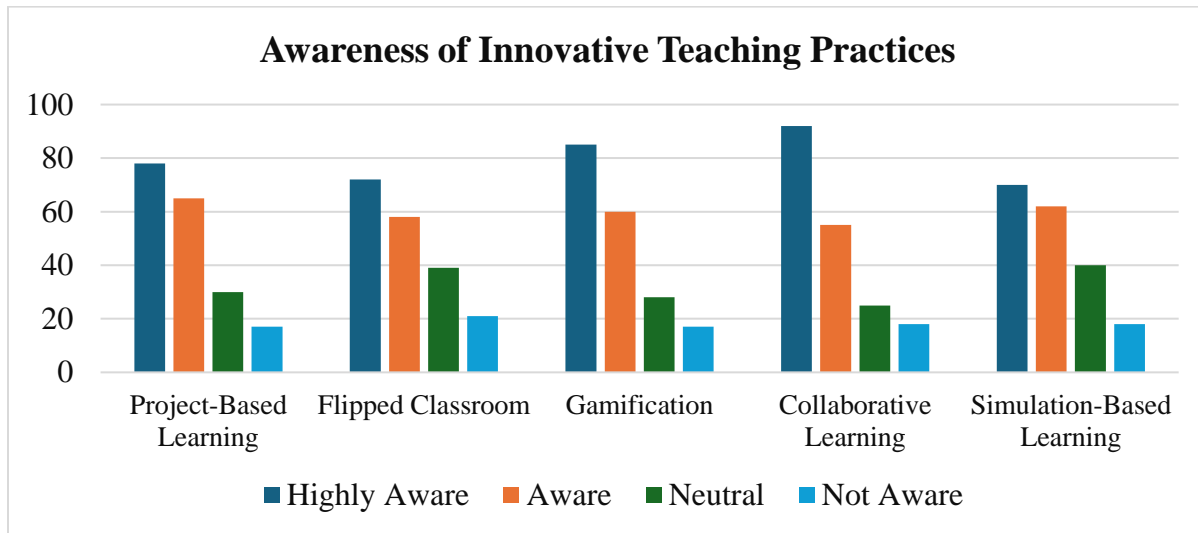
In this section the data collected on the respondents on innovative teaching practices and the effect they have on the development of critical thinking and creativity in students are analyzed and interpreted. The appropriate statistical tools were used to analyze the data and were presented in tabular form in order to understand better.

**Table 1:** Demographic Profile of Respondents

Demographic Variable	Category	Frequency	Percentage
<b>Gender</b>	Male	88	46.3%
	Female	102	53.7%
<b>Age Group</b>	18–20 years	74	38.9%
	21–23 years	81	42.6%
	Above 23 years	35	18.5%

Respondent Type	Students	150	78.9%
	Teachers	40	21.1%

The table 1 above shows the demographic profile of the respondents that participated in the study. The data indicate that of the total number of respondents, 102 participants (53.7%) were female, and 88 respondents (46.3) were male, which shows that slightly more female respondents took part in the research. The age distribution indicated that most of the respondents were aged 21-23 years with 81 respondents (42.6%), then 74 respondents (38.9%), who were aged 18-20 years, with only 35 respondents (18.5%) above 23 years old. This indicates that the study mainly focused on young learners in higher educational institutions. Also, in terms of type of respondent, students were the biggest respondent group (150 people, 78.9%), and in terms of teachers, there were 40 respondents (21.1%).



**Figure 1:** Awareness of Innovative Teaching Practices

Figure 1 shows the level of awareness of the respondents about the various innovative teaching practices adopted in learning institutions. The results show that collaborative learning was the most aware aspect, 92 respondents were highly aware and 55 respondents were aware of the method, which demonstrates its popularity and wide use in the classroom. The concept of gamification was also well-known, with 85 respondents being highly aware and 60 aware, which indicates that the

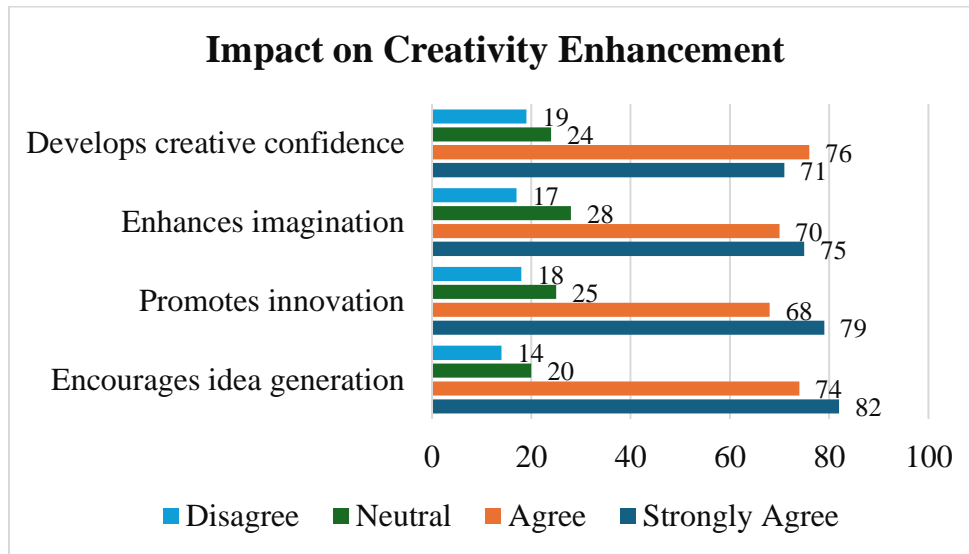
strategy of game-based learning is gaining popularity among learners and educators. The level of awareness of project-based learning was also high with 78 and 65 respondents being highly and aware, respectively, of its significance in fostering experiential and practical learning. On the same note, the respondents identified flipped classroom teaching as a well-known technique with 72 highly aware and 58 aware respondents but a moderate number were neutral or unaware. Comparatively lower awareness was captured in simulation-based learning with 70 respondents being highly aware, 62 respondents being aware and 40 respondents being neutral, which implies that this method might still need a wider application and exposure.

**Table 2:** Impact of Innovative Teaching Practices on Critical Thinking

Statement	Mean Score	Rank
Improves analytical thinking	4.48	I
Enhances problem-solving ability	4.35	II
Encourages independent learning	4.22	III
Improves decision-making skills	4.11	IV
Develops logical reasoning	4.05	V

Table 2 reveals the effects of the innovative teaching practices on the critical thinking skills of students with respect to the mean score analysis and ranking approach. The results show that the highest mean score was obtained with Improves analytical thinking as it received 4.48 and acquired the first place, which means that the respondents have a strong belief that innovative teaching methods help students to analyze information and situations effectively. The second one was rated at 4.35 (mean score) and the second position, which indicated that creative pedagogical methods enable students to create effective solutions to academic and life problems. Encourages independent learning had the third ranking with the mean score of 4.22 which implies that with such teaching practices students are encouraged to learn independently and are responsible in their learning process. Likewise, the mean score of Improves decision-making skills was 4.11 and was

the fourth rank, which underlines the impact of innovative learning environments to reinforce the judgment and decision-making skills of learners. Finally, the fifth, but still a positive influence on the reasoning skills of students, is the mean score of 4.05, Develops logical reasoning.



**Figure 2:** Impact on Creativity Enhancement

Figure 2 indicates the views of the respondents on the effects of innovative teaching practices on increase in creativity among students. The results show that most of the respondents highly agreed with the fact that new instructional techniques stimulate the generation of ideas with 82 and 74 respondents giving a consent of strongly agree and agree respectively, showing the usefulness of new methods of teaching in encouraging creative thinking. On the same note, the statement Promotes innovation generated positive responses with majority of the participants strongly agreeing (79) and agreeing (68) indicating that innovative practices in the classroom encourage students to generate new and original ideas. Another indicator that responded positively was the indicator that Enhances imagination with a strong agreement of 75 respondents and 70 with an assertion that innovative teaching develops the imaginations of students. Moreover, “Develops creative confidence” had 71 strongly agree and 76 agree respondents, which means that these teaching techniques make students feel more confident in sharing their creative ideas and abilities.

**Table 3:** Correlation Between Innovative Teaching and Student Performance

Variables	Correlation Coefficient (r)	Interpretation
Innovative Teaching & Critical Thinking	0.82	Strong Positive Correlation
Innovative Teaching & Creativity	0.79	Strong Positive Correlation
Technology Use & Student Engagement	0.76	Positive Correlation

Table 3 shows the relationship between innovative teaching practices and the variables of student performance. The findings show that innovative teaching and critical thinking have a strong positive relationship with a correlation coefficient (r) of 0.82, which implies that adoption of innovative teaching practice has a significant impact on improving students critical and analytical thinking skills. On the same note, the correlation between the innovative teaching and creativity exhibits strong positive relationship with r value of 0.79 indicating that the modernized pedagogical practices are effective in developing creativity and innovative thinking in students. Moreover, the student engagement and technology uptake had a correlation coefficient of 0.76 which was positive thus indicating that there was a positive relationship between the use of technology in instruction and the involvement of students in classroom learning. As a whole, Table 3 illustrates that creative pedagogy and technology-rich learning conditions have a significant impact on enhancing the critical thinking, creativity and involvement of students, which leads to higher educational performance in general.

## 5. CONCLUSION

The research concludes that the importance of innovative teaching practices in building critical thinking and creativity among students in current learning settings are considerable. The results make it clear that project-based learning, collaborative learning, technology-based flipped classes, gamification, experiential learning, and technology-based teaching have a positive impact on analytical skills, problem solving, imagination, and creative confidence of students. These learning



techniques promote participation, self-directed learning and intellectual stimulation, which are fundamental to a holistic growth of students in the 21 st century. Another aspect of technology integration into interactive pedagogies that the study brings forward is that, the learning environment becomes more dynamic and effective as opposed to the lecture-based instruction. Moreover, a high-ranking positive correlation between innovative teaching practices and student performance shows that it is crucial to introduce modern educational approaches in the institutions of higher education. As such, school, teachers and policy makers must proactively encourage new and student-centered pedagogies that encourage high order of thought skills, creativity and the capacity of students to learn throughout their lives so that they can be well equipped to handle future academic, professional and societal challenges.

## REFERENCES

1. *Almulla, M. A. (2023). Constructivism learning theory: A paradigm for students' critical thinking, creativity, and problem solving to affect academic performance in higher education. Cogent education, 10(1), 2172929.*
2. *CG, M. (2024). Innovations in Teaching Practices. International Research Journal on Advanced Engineering and Management (IRJAEM), 2(05), 1469-1471.*
3. *Chashechnikova, O., Odintsova, O., Hordiienko, I., Danylchuk, O., & Popova, L. (2024). Innovative technologies for the development of critical thinking in students. Amazonia Investiga, 13(81), 197-213.*
4. *Dilekçi, A., & Karatay, H. (2023). The effects of the 21st century skills curriculum on the development of students' creative thinking skills. Thinking skills and creativity, 47, 101229.*
5. *Fachrin, M. (2025). The effectiveness of pedagogical innovation in developing the creativity and critical thinking of 21st century students: a systematic literature study. Journal of Educational Innovation and Transformation Global, 1(1), 8-16.*
6. *Guo, Y., & Lee, D. (2023). Leveraging ChatGPT for enhancing critical thinking skills. Journal of Chemical Education, 100(12), 4876-4883.*
7. *Kwangmuang, P., Jarutkamolpong, S., Sangboonraung, W., & Daungtod, S. (2021). The development of learning innovation to enhance higher order thinking skills for students in Thailand junior high schools. Heliyon, 7(6).*



8. Lorencová, H., Jarošová, E., Avgitidou, S., & Dimitriadou, C. (2019). *Critical thinking practices in teacher education programmes: a systematic review. Studies in Higher Education, 44(5), 844-859.*
9. Novia, F., Nurdianti, D., & Purwanto, M. B. (2024). *English learning and innovation skills in 21st: Implementation of critical thinking, creativity, communication, and collaboration. Asian Journal of Applied Education (AJAE), 3(2), 113-124.*
10. Nurkhin, A., & Pramusinto, H. (2020). *Problem-Based Learning Strategy: Its Impact on Students' Critical and Creative Thinking Skills. European Journal of Educational Research, 9(3), 1141-1150.*
11. Okolie, U. C., Igwe, P. A., Mong, I. K., Nwosu, H. E., Kanu, C., & Ojemuyide, C. C. (2022). *Enhancing students' critical thinking skills through engagement with innovative pedagogical practices in Global South. Higher Education Research & Development, 41(4), 1184-1198.*
12. Saroyan, A. (2022). *Fostering creativity and critical thinking in university teaching and learning: Considerations for academics and their professional learning.*
13. Stéphan, V. L., Carlos, G. S., Mathias, B., Meritxell, F. B., Gwénaél, J., Joaquin, U., & Quentin, V. (2019). *Educational Research and Innovation Fostering Students' Creativity and Critical Thinking What it Means in School: What it Means in School. OECD Publishing.*
14. Tahiri, A. (2025). *Creativity in innovative teaching, the role of teachers in integrating creativity and critical thinking through technology.*
15. Widiastuti, I. A. M. S., Mantra, I. B. N., Utami, I. L. P., Sukanadi, N. L., & Susrawan, I. N. A. (2023). *Implementing problem-based learning to develop students' critical and creative thinking skills. JPI (Journal Pendidikan Indonesia), 12(4), 658-667.*



### **Author's Declaration**

I as an author of the above research paper/article, here by, declare that the content of this paper is prepared by me and if any person having copyright issue or patent or anything otherwise related to the content, I shall always be legally responsible for any issue. For the reason of invisibility of my research paper on the website /amendments /updates, I have resubmitted my paper for publication on the same date. If any data or information given by me is not correct, I shall always be legally responsible. With my whole responsibility legally and formally have intimated the publisher (Publisher) that my paper has been checked by my guide (if any) or expert to make it sure that paper is technically right and there is no unaccepted plagiarism and hentricontane is genuinely mine. If any issue arises related to Plagiarism/ Guide Name/ Educational Qualification /Designation /Address of my university/ college/institution/ Structure or Formatting/ Resubmission /Submission /Copyright /Patent /Submission for any higher degree or Job/Primary Data/Secondary Data Issues. I will be solely/entirely responsible for any legal issues. I have been informed that the most of the data from the website is invisible or shuffled or vanished from the database due to some technical fault or hacking and therefore the process of resubmission is there for the scholars/students who finds trouble in getting their paper on the website. At the time of resubmission of my paper I take all the legal and formal responsibilities, If I hide or do not submit the copy of my original documents (Andhra/Driving License/Any Identity Proof and Photo) in spite of demand from the publisher then my paper maybe rejected or removed from the website anytime and may not be consider for verification. I accept the fact that as the content of this paper and the resubmission legal responsibilities and reasons are only mine then the Publisher (Airo International Journal/Airo National Research Journal) is never responsible. I also declare that if publisher finds Any complication or error or anything hidden or implemented otherwise, my paper maybe removed from the website or the watermark of remark/actuality maybe mentioned on my paper. Even if anything is found illegal publisher may also take legal action against me.

**Noel Kispotta**

\*\*\*\*\*