

***Navigating Pedagogical Disparity:
Faculty Approaches and Tools for Enhancing Teaching Skills***

Elizabeth Jerome, Atlas SkillTech University, India

The Korean Conference on Education 2024
Official Conference Proceedings

Abstract

Design education is continuously evolving, especially in how educators foster creative thinking. The effectiveness of faculty in delivering quality teaching is a significant challenge within a multidisciplinary design school. Some faculty highly prioritise innovative pedagogical techniques and interactive learning environments, while others rely on traditional methods, needing more dynamism to inspire and empower aspiring designers. The differences in teaching approaches among faculty have a significant impact on students' learning and aspirations, at times leading to a decrease in their trust in both their faculty and the institution. Addressing this matter requires a joint effort from faculty and institutional leadership. Hence, this study employed a mixed-method approach to examine pedagogical differences in design education. Surveys and interviews were used to gather data from faculty with teaching experience ranging from one to fifteen years to understand disparities and inform more equitable teaching practices. In addition, comprehensive desk research was conducted to analyse the pedagogical approaches and their evolution from the Bauhaus era to the present, encompassing various socio-economic and cultural contexts. The study analysis showed that Professional development initiatives, including workshops and mentorship programs, can provide the tools and support needed to enhance teaching skills and expertise. Design schools should help build a cohesive culture that prioritises recruiting and retaining faculty committed to engaging in innovative teaching practices. Regular feedback from faculty members and fostering a sense of community and collaboration can help highlight areas for improvement and encourage a culture of continuous growth and progress.

Keywords: Design Education, Pedagogical Innovation, Student Engagement, Professional Development, Experiential Learning

iafor

The International Academic Forum
www.iafor.org

Introduction

The field of design education has undergone significant transformations, with a shift towards cultivating creative, adaptable, and interdisciplinary thinkers who can address complex, real-world challenges. Traditionally, design education has been grounded in theoretical instruction, with an emphasis on outcomes, aesthetics and vocational training. However, as industries demand designers who can think critically and work collaboratively across disciplines, there is a pressing need to re-evaluate teaching methods in design schools.

Evolution of Design Education

Design education has long been shaped by the principles of notable early institutions, particularly the Bauhaus, which championed the importance of functionalism and craftsmanship (Meyer & Norman, 2019; Avital & Monga, n.d.). This foundational approach, while significant, seems increasingly inadequate in addressing the complexities of the 21st century (Pontis & van der Waarde, 2020; Charalambous & Christou, 2016). With the rapid evolution of technology and shifting societal needs, a more holistic approach to design education is essential, one that transcends mere aesthetics (Weil & Mayfield, 2020; Whitney & Nogueira, 2020). Educators today are called to integrate a variety of teaching methodologies that include real-life problem-solving, collaborative projects, and the development of interdisciplinary skills (Avital & Monga, n.d.; Chitte, Sandhu, & Bhardwaj, n.d.; Cluckan, 2016). This shift is crucial for preparing students to meet the diverse and dynamic professional demands they will encounter in their careers.

Challenges in Current Pedagogy

Despite the progressive strides made in design education, a lingering challenge persists an overwhelming emphasis on aesthetics at the expense of social impact. This trend has led to a growing underappreciation of design's vast potential to contribute to societal well-being. Current research advocates for a design education revitalization that emphasizes practical application, user-centred design, and the cultivation of critical thinking skills (Pontis & van der Waarde, 2020).

Inconsistency in Teaching Approaches: The need for more standardization in pedagogical practices across faculty leads to uneven learning experiences, which can diminish student engagement and affect learning outcomes (Avital & Monga, n.d.; Sarkar, n.d.; Murray, n.d.).

Eroded Trust and Institutional Perception: Disparities in teaching quality contribute to a reduction in student trust toward faculty and institutions, emphasizing the need for a more cohesive, student-centred educational approach (Charalambous & Christou, 2016; Cluckan, 2016).

Need for Faculty Development: Faculty members often lack the training to integrate innovative, student-focused teaching practices, highlighting a gap in professional development within the academic structure (Singh & Gupta, 2021; Whitney & Nogueira, 2020).

Addressing these challenges requires a structured analysis of current teaching methods and an exploration of effective pedagogical practices and professional development opportunities (Meyer & Norman, 2019; Weil & Mayfield, 2020; Pontis & van der Waarde, 2020).

By addressing these critical components, institutions can better equip students to tackle the multifaceted challenges they will face in a rapidly changing world (Figure 1).

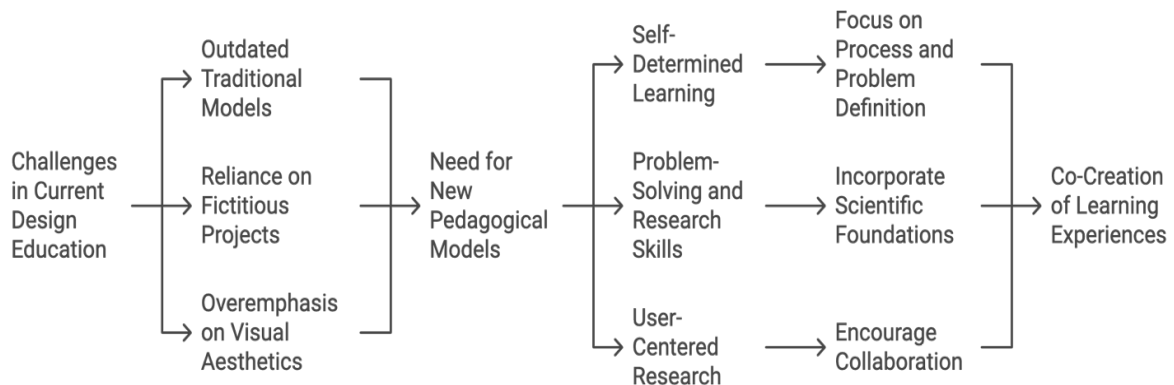


Figure 1: Challenges and Need for New Pedagogical Models

Professional Development for Faculty

In light of these challenges, the National Education Policy (NEP) 2020 strongly emphasizes the importance of continuous professional development (CPD) for educators, recognizing that staying informed about evolving educational standards is not merely beneficial but essential. Research indicates that effective CPD should not be viewed as a collection of static training programs; instead, it should be a dynamic and iterative process (Singh & Gupta, 2021). This approach ensures that faculty members receive ongoing support and resources, enabling them to align their teaching practices with the ever-changing landscape of academic needs (Singh & Gupta, 2021).

Innovative Approaches in Design Education

To foster innovative teaching and learning, recent studies have illuminated the benefits of adopting experiential learning models within design education (Avital & Monga, n.d.; Chitte et al., n.d.; Cezzar, 2020). These models emphasize multidisciplinary collaboration, hands-on projects, and inquiry-based methods. By engaging students in active learning and providing opportunities for real-world application, these innovative techniques have proven to enhance student engagement significantly (Meyer & Norman, 2019; Weil & Mayfield, 2020; Whitney & Nogueira, 2020). Furthermore, such approaches prepare graduates for the intricate realities of contemporary design work, ensuring they possess not only the technical skills but also the critical thinking and problem-solving abilities necessary for success in their future careers (Figure 2).

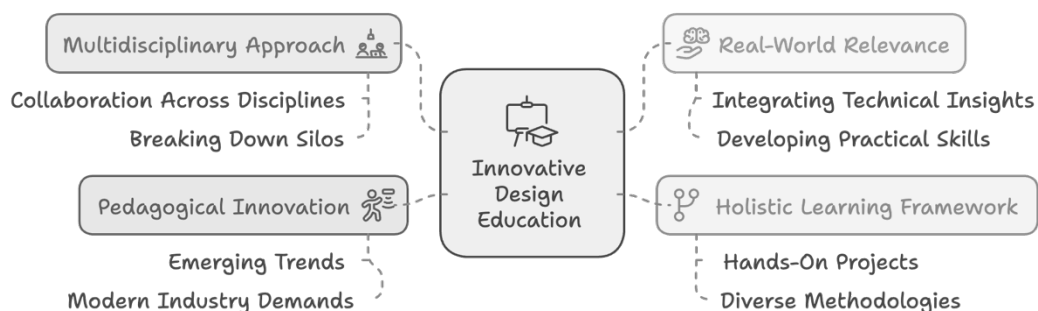


Figure 2: Innovative Design Education (Figure generated using Napkin AI)

This study aims to investigate the relationship between teaching methodologies and student outcomes, with a focus on the following objectives:

- *Evaluating Innovative Techniques*: Determine how innovative methods, such as project-based and hands-on learning, impact student engagement and comprehension in design education.
- *Influence of Professional Development*: Assess the role of faculty professional development in promoting the adoption of these innovative techniques.
- *Impact on Student Trust*: Explore the effect of teaching methods on student perceptions of trust and satisfaction with their educational institution.
- *Feedback Mechanisms*: Analyse how feedback from students and peers influences faculty satisfaction and continuous improvement in teaching.

By addressing these objectives, the study seeks to highlight the significance of institutional support and professional growth in transforming design education.

Methodology

A mixed-method approach was employed to gather quantitative and qualitative data, enabling a comprehensive examination of faculty and student perspectives on teaching methods in contemporary design education. The two stakeholder groups identified for this study are Design faculty and students in the second, third and fourth year of the undergraduate course-Bachelor in Design in Mumbai. The survey was shared with 40 design faculty members, of which 15 responded. Additionally, the student survey was shared with 80 students, of which 33 responded. Faculty participants varied in age, experience, and institutional affiliation, providing a diverse perspective on teaching practices.

Two structured questionnaire surveys were designed to capture perceptions from two groups-design faculty and students. Faculty surveys focused on teaching methods, professional development engagement, challenges with innovation, and institutional support. Student surveys explored their learning experiences, engagement with innovative methods, and perceptions of faculty's teaching effectiveness.

The questionnaire included a mix of questions- close-ended, open-ended, contingency, and matrix. Statistical tools were used to examine relationships between variables, including T-tests, ANOVA, correlation, and regression analysis. Multiple hypotheses regarding the impact of professional development, feedback, and teaching methods on student satisfaction and faculty innovation were tested to draw meaningful insights.

Findings and Discussion

The study responses' analysis indicates that while a majority of faculty members employ project-based learning (86.7 %) and group work (93.3 %), traditional lectures (80 %) still dominate. This reliance on conventional methods may hinder student engagement and adaptability, suggesting the need for greater emphasis on experiential learning.

As shown in Figure 3, on a scale of 1 to 5, most respondents rated their use of innovative pedagogical techniques between 1 and 3, indicating limited incorporation. However, a few educators reported higher scores, showing active integration of innovative methods. While faculty preferred online CPD programs, participation rates were low, and they had mixed perceptions about their benefits. This suggests a disconnect between professional

development opportunities and educators' practical needs, emphasizing the need for targeted and relevant training programs.

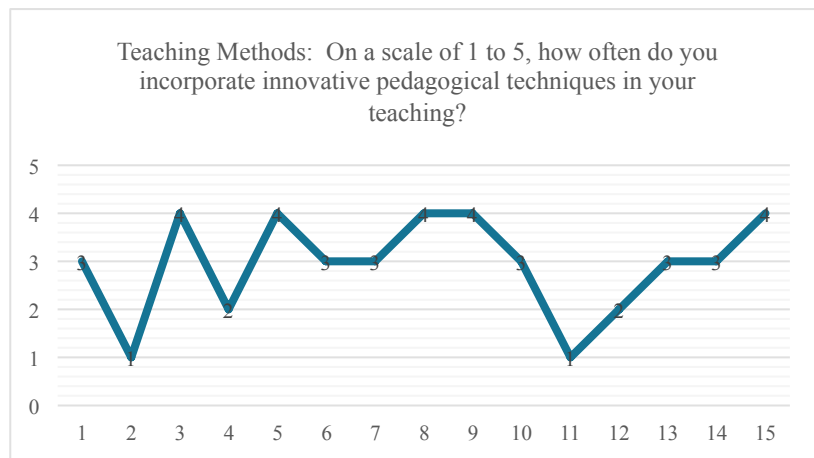


Figure 3: Integration of Innovative Pedagogical Techniques

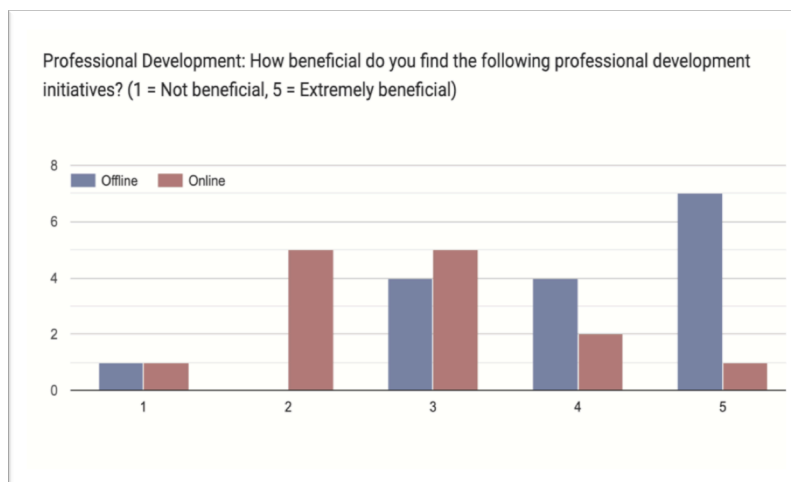


Figure 4: Benefits of Professional Development

Faculty cited various barriers to adopting new methods, including limited institutional support, rigid curricula, time constraints, and infrastructure limitations. These challenges underscore the need for administrative flexibility and resources to enable faculty to experiment with novel teaching practices. The study participants were also asked to elaborate on the challenges they face in implementing Innovative teaching methods.

- Adopting new teaching methods can be challenging due to infrastructure limitations, time constraints, rigid timetables, and resistance to change.
- Implementing innovative methods demands extra time and resources, and concerns about student engagement and outcomes add complexity.
- Aligning techniques with course structures and ensuring hands-on learning outside the classroom poses logistical and safety challenges.

Students reported higher levels of engagement and satisfaction with project-based and hands-on learning approaches. In contrast, traditional lectures and online modules were perceived as less effective, underscoring the potential of interactive methods in fostering meaningful learning experiences.

Table 1: Hypothesis Table

Hypothesis 1 (Professional development programs)	(H1.0): Faculty members who engage in more professional development programs (workshops, mentorship) do not demonstrate a higher incorporation of innovative teaching methods.
	(H1.1): Faculty members who engage in more professional development programs (workshops, mentorship) demonstrate a higher incorporation of innovative teaching methods.
Hypothesis 2 (Feedback mechanism for faculty)	(H2.0): The presence of regular feedback mechanisms from students and peers does not lead to an increase in faculty satisfaction and continuous improvement in teaching approaches.
	(H2.1): The presence of regular feedback mechanisms from students and peers leads to an increase in faculty satisfaction and continuous improvement in teaching approaches.
Hypothesis 3 (Impact of teaching Method on students)	(H3.0): Differences in teaching methods (traditional vs. innovative) do not significantly impact student trust and satisfaction with the institution.
	(H3.1): Differences in teaching methods (traditional vs. innovative) significantly impact student trust and satisfaction with the institution.
Hypothesis 4 (Hands on and Project-based learning)	(H4.0): Students do not perceive Hands-on learning and project-based learning as more effective than traditional lecture-based teaching in design education.
	(H4.1): Students perceive Hands-on learning and project-based learning as more effective than traditional lecture-based teaching in design education.

Demographics

Fifteen of the forty design faculty and thirty-three of the eighty students who received the questionnaire responded. The study sample included Design faculty from varying design disciplines such as Interior design, Communication Design, Product Design, Animation and VFX and Fashion design. The distribution of design faculty was noticed to be even across specialization, whereas the distribution of design students was as follows: 72.7% from the Third year, 21.2 % from the second year and 6.1 % from the Fourth year.

Professional Development Programs

The variables considered here were the Number of Professional Development programs attended (Independent variable) and the frequency of Innovative teaching methods used by faculty (dependent variable). The latter was measured on a scale of 1 to 5 where 1 was 'never' and 5 was 'always'.

Table 2: Effectiveness of Hands On and Project Based Learning According to 3rd Year Students

	Professional Development: In the past year, how many professional development programs related to teaching-learning have you participated in (Offline or Online)?	Teaching Methods: On a scale of 1 to 5, how often do you incorporate innovative pedagogical techniques in your teaching?
Mean	1	2.933333333
P- value	0.00656827	
t Critical	1.701130934	

As seen in Table 2, the p-value is significantly lower than the typical threshold of 0.05. Hence, H_{1.0} is rejected. This suggests that participation in professional development programs may be significantly related to the adoption of innovative pedagogical techniques. Faculty participating in more professional development programs tend to use innovative teaching techniques more frequently.

In addition to Professional development programs, the 15 Design faculty were also asked to highlight other approaches and tools for enhancing teaching skills. The findings highlighted that Technology integration in education is pivotal for fostering an engaging learning environment. Learning Management Systems (LMS) streamline the organisation of course materials and facilitate access for both students and instructors. Utilizing lecture recording technologies and implementing flipped classroom models can enhance flexibility and promote active engagement among learners. Interactive methods such as gamification and storytelling can further deepen the involvement of students by making learning more enjoyable and relatable. Effective communication tools are essential for maintaining student participation and fostering peer collaboration, contributing to a vibrant educational atmosphere. Faculty development plays a crucial role as well; platforms like Coursera, edX, and LinkedIn Learning enable continuous skill enhancement, while regular peer review sessions facilitate the exchange of best practices. Finally, adapting teaching methods to accommodate diverse learning styles and collaborating with universities on curriculum development are key strategies for personalized and enriched educational experiences.

Feedback Mechanism for Faculty

The study revealed that feedback mechanisms were inconsistently utilized, limiting their potential to impact teaching satisfaction and improvement. Students placed significant value on transparency, fairness, and active engagement, indicating that faculty who prioritize these aspects can build stronger, trust-based relationships with students.

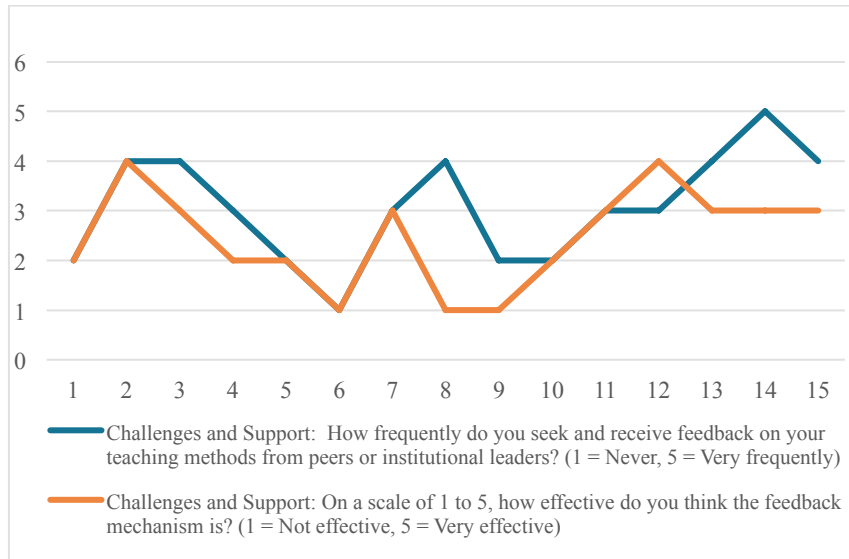


Figure 5: Impact of Feedback Mechanism on Faculty Satisfaction and Improvement

The effectiveness rating is 0.559, emphasising that few respondents view the feedback mechanisms as largely ineffective. Hence, H2.0 cannot be rejected.

The data suggests both low frequency in seeking feedback and ineffectiveness in the feedback mechanisms. This indicates a need for institutions to strengthen their feedback systems, encourage more regular feedback-seeking behaviours, and improve the quality and impact of feedback mechanisms in supporting teaching improvement.

Impact of Teaching Method on Students

A p-value of < 0.05 is achieved between the groups of 'type of teaching method' and 'students trust and satisfaction' which indicates a statistically significant difference between groups, leading to the rejection of H3.0. This highlights that the teaching methods used by faculty significantly impact students' satisfaction and trust in the institution.

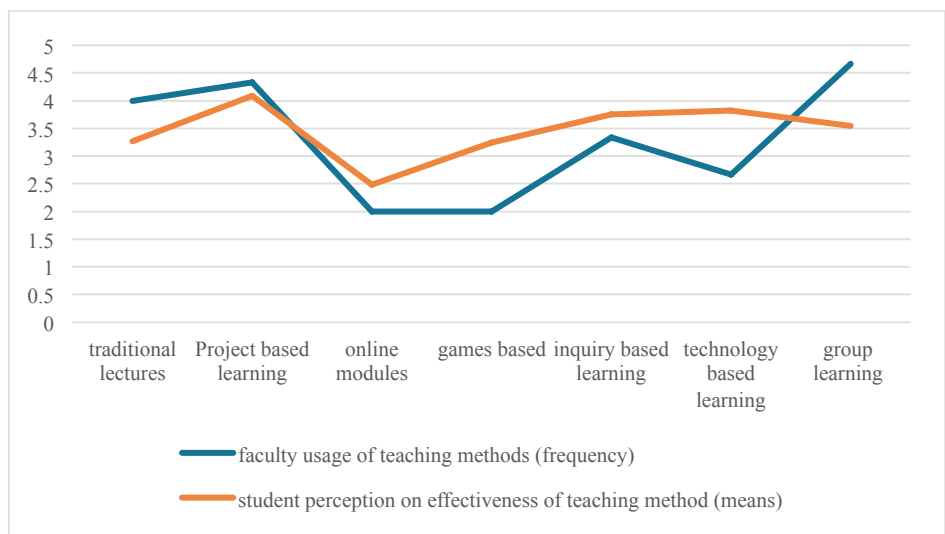


Figure 6: Role of Academia and Practice for Skill Development

Additionally, the graph strengthens the argument that some teaching methods correlate with students' effectiveness ratings, with project-based learning exhibiting the most robust results

alignment. The design faculty were asked for their views on additional strategies to enhance student trust and satisfaction with the institution. Most respondents emphasized the following points, as seen in Figure 8.

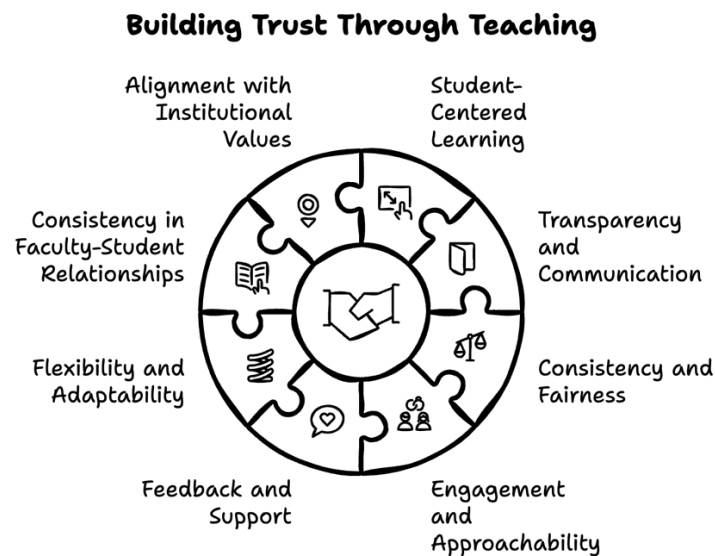


Figure 7: Building Trust Through Teaching (*Figure generated using Napkin AI*)

Aligning faculty with the institution’s values is crucial for cultivating trust at the university. Students tend to trust faculty who tailor their teaching approaches to address individual needs, as this personalization improves engagement. Clear communication regarding course objectives creates a trustworthy environment, while fairness and consistency in grading further reinforce that trust. Actively involving students in learning activities shows faculty dedication, and providing regular constructive feedback helps build strong relationships. Finally, faculty adaptability to evolving student situations adds to a secure and trustworthy educational atmosphere environment.

Hands-On and Project-Based Learning

The variables considered here were the Type of teaching method used by faculty (Independent variable) and students' perception of the effectiveness of the teaching method used by faculty (dependent variable). The latter was measured on a scale of 1 to 5 where 1 was ineffective and 5 was most effective.

As seen in Table 3, it is evident that 3rd year design students find Project-based learning (p-value < 0.05) and hands-on learning (p-value < 0.05) significantly more impactful and effective than other mediums of teaching.

Table 3: Effectiveness of Hands On and Project Based Learning According to 3rd Year Students

3rd year students	Groups	Average	F	P-value
	Traditional lectures	3.125	8.10155641	1.9976E-10
	Project-based learning	4.04166667		
	Online modules	2.41666667		
	game based learning	3.16666667		
	Hands-on Learning	4.125		
	inquiry based learning	3.70833333		
	Technology-based learning	3.75		
	Group learning	3.54166667		
	Other	3.33333333		
Tukey HSD / Tukey Kramer		P-value		
Year of college - Project based learning		0.002956		
Year of college – Hands on learning		0.0008245		

As seen in Table 4, the 2nd year students too significantly agree that Project-based learning (p-value <0.05) and hands-on learning (p-value < 0.05) are more impactful and effective than other mediums of teaching. Additionally, they highlight that technology-based learning and traditional methods of learning are simultaneously more impactful than other methods, such as online modules, inquiry-based learning, game-based learning, and group learning. This could be related to 2nd-year students not being as exposed and mature as 3rd-year students. Students in the 2nd year are learning multiple software programs and are enamoured by the immense possibilities that these programs allow them within their projects. Therefore, they might find technology-based learning more impactful. In contrast, 3rd-year students have already been exposed to this software in their 2nd year, so they do not feel it is more impactful.

Table 4: Effectiveness of Hands-On and Project-Based Learning According to 2nd Year Students

2nd year students	Groups	Average	F	P-value
	Traditional lectures	3.71428571	4.222816	0.00028873
	Project-based learning	4.14285714		
	Online modules	2.71428571		
	game based learning	3.42857143		
	Hands-on Learning	4.42857143		
	inquiry based learning	3.57142857		
	Technology-based learning	4		
	Group learning	3.57142857		
	Other	2.85714286		
Tukey HSD / Tukey Kramer		P-value		
Year of college – Traditional Lectures		0.03695		
Year of college – Project-based learning		0.002852		
Year of college- hands on learning		0.000416		
Year of college- Technology based learning		0.007045		

The above findings highlight that other teaching mediums, such as online modules and game-based learning, need reassessment and enhancement to improve their effectiveness. Hence, H_{4.0} is rejected.

Conclusion

The findings of this study highlight the limitations of traditional teaching methods in design education, which may restrict the broader adoption of innovative approaches. Faculty participation in professional development programs remains low, partly due to a mismatch between the content of these programs and educators' actual needs. Furthermore, students are more engaged when interactive and hands-on teaching methods align with the competencies required in contemporary design industries. Institutional support and constructive feedback systems are crucial in fostering a learning environment where faculty can adopt innovative pedagogical practices. By aligning teaching approaches with student needs and professional demands, design education can create more effective, adaptive, and inclusive learning experiences.

The study further concludes by highlighting the following recommendations for design institutions and universities:

- Tailored CPD: Align CPD programs with design education needs, emphasizing hands-on techniques and adaptive strategies.
- Improve Feedback Systems: Foster regular, meaningful feedback from students and peers for insights on teaching effectiveness.
- Revise Online Modules: Enhance digital modules for better engagement through interactive elements.
- Support Innovation: Offer logistical backing, flexible curricula, and resources to promote innovative teaching practices.

Acknowledgements

The author would like to express gratitude and appreciation to all the participants who spent their valuable time filling in the survey questionnaire.

References

- Avital, I., & Monga, C. (n.d.). De'Chakra: Method of Multidiscipline Design Education. In Section 8: Design Teaching Methods.
- Cezzar, J. (2020). Teaching the designer of now: A new basis for graphic and communication design education. *She Ji: The Journal of Design, Economics, and Innovation*, 6(2), 213–227. <https://doi.org/10.1016/j.sheji.2020.05.002>
- Charalambous, N., & Christou, N. (2016). Re-adjusting the objectives of architectural education. *Procedia - Social and Behavioral Sciences*, 228, 375–382. <https://doi.org/10.1016/j.sbspro.2016.07.056>
- Chitte, S., Sandhu, A. K., & Bhardwaj, K. (n.d.). Methods for Design Evaluation. In Section 8: Design Teaching Methods.
- Luckan, Y. (2016). The transformation of architectural pedagogy towards a new model for architectural education at universities of technology in South Africa (Doctoral dissertation, University of KwaZulu-Natal). University of KwaZulu-Natal, Durban, South Africa.
- Meyer, M. W., & Norman, D. (2020). Changing design education for the 21st century. *She Ji: The Journal of Design, Economics, and Innovation*, 6(1), 13–49. <https://doi.org/10.1016/j.sheji.2019.12.002>
- Murray, A. (2013). *Designing Behaviours in Design Education*. Paper presented at Designing Design Education India, Pune, India. <http://www.ddei.in/>
- Napkin AI. (2024). AI-generated diagram. Created using Napkin AI.
- Pontis, S., & van der Waarde, K. (2020). Looking for alternatives: Challenging assumptions in design education. *She Ji: The Journal of Design, Economics, and Innovation*, 6(2), 228–253. <https://doi.org/10.1016/j.sheji.2020.05.005>
- Singh, S., & Gupta, P. (2021). Continuous professional development for teachers in India: Prospects and challenges in reference to National Education Policy 2020.
- Sarkar, S. (n.d.). Why and How Do I Teach Research Skills in a Communication Design Programme in India?. In Section 8: Design Teaching Methods.
- Weil, D., & Mayfield, M. (2020). Tomorrow's critical design competencies: Building a course system for 21st-century designers. *She Ji: The Journal of Design, Economics, and Innovation*, 6(2), 137–155. <https://doi.org/10.1016/j.sheji.2020.03.002>
- Whitney, P., & Nogueira, A. (2020). Cutting cubes out of fog: The whole view of design. *She Ji: The Journal of Design, Economics, and Innovation*, 6(2), 129–156. <https://doi.org/10.1016/j.sheji.2020.04.001>