GEN Z'S LEARNING PREFERENCES IN CREATIVE DESIGN: A CONCEPTUAL FRAMEWORK

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Abstract. To create successful learning approaches for creative design education, it is essential to understand how Generation Z students learn best. The study investigates the factors that affect Gen Z students to choose Self-Directed Learning (SDL) or Lecturer-Facilitated Instruction (LFI) by analyzing Self-Determination Theory (SDT) and Self-Regulated Learning (SRL). The current study indicates that Gen Z prefers autonomous learning and active digital participation but lacks specific insights into how these preferences influence creative education environments. The study reveals three significant knowledge gaps concerning the hybrid learning frameworks: insufficient, the absence of SDL studies in creative design, and the unclear relationship between structured guidance and creative learning success. The study develops a conceptual framework integrating SDT and SRL to address these gaps while enhancing student engagement, self-regulation, and motivation. The study employs mixed methods to collect quantitative survey results and qualitative information from focus group sessions for Gen Z behavioral and learning preference analysis. The researchers will use thematic analysis and structured coding to examine qualitative responses and identify motivational patterns, engagement levels, and self-regulation trends. The study conceptualizes a foundation for curriculum developers and instructors to establish adaptable learning methods that merge student independence with organized support to boost creative performance and educational success among Gen Z creative design students.
Keywords: *generation Z learning preferences, Self-Directed Learning (SDL), lecturer-facilitated instruction, Self-Regulated Learning (SRL), creative design education*

Introduction

In an era of rapid technological change, higher education institutions must adapt their teaching strategies to accommodate Generation Z students, who exhibit distinct learning preferences driven by digital immersion. Generation Z (Gen Z) comprises individuals born between 1995 and 2012 and possess unique traits because of their digital immersion from a young age. Generation Z students exhibit distinct preferences in their learning approaches, particularly between lecturer-facilitated and self-directed learning in creative design disciplines. Students' educational success and retention depend on their preferences, which guide broader institutional curricula and educational strategies worldwide (Kim, 2024; Purmono, 2023; Hampton and Keys, 2017). Although research on generational learning styles is extensive, studies specifically examining Gen Z learning patterns in creative design environments remain limited. The field of learning strategies generation analysis has studied various academic areas. However, insufficient studies exist regarding Gen Z students' preferences for self-directed and facilitator-led creative learning experiences. The current body of study shows Gen Z students prefer active learning and autonomy, but current studies need to explore their actual classroom policies, especially for creative fields that require innovation and collaboration (Kim, 2024; Nwajiuba and Onyeneke, 2022). The study must study the relationship between

Gen Z learning preferences and creative design education pedagogies because the connection requires immediate attention.

The concept paper explores the multiple elements influencing how Generation Z members prefer self-directed learning over lecturer-facilitated learning in creative design education programs. The study will analyze the different cultural conditions, technological aspects, and pedagogical elements that control these preferences while affecting student learning results. The objective establishes a framework that trains faculty members and curriculum developers to teach using methods matching Gen Z learning preferences to create environments supporting individual and group creative development (Choudhary and Pandita, 2023; Kustin et al., 2023). The paper supports creative, flexible educational practices that enable Gen Z students to gain empowerment. The approach supports an academic model that enhances self-driven education through controlled facilitation. The study supports two educational methods to maintain student interest while developing Gen Z learning techniques in their evolving creative environment (Atmaja and Khalid, 2023; Chillakuri, 2020).

The study finds its value in the educational changes that emerge from Gen Z entering universities. Understanding the unique characteristics of Gen Z is essential for educational institutions that must revamp their teaching methods due to the urgent need for transformation (Kim, 2024; Purmono, 2023). Such study findings will directly shape educational curricula throughout different academic fields because creative subjects need flexible teaching approaches. Investigating these factors creates significant importance to current educational results and shapes future pedagogical methods in higher education. The solution aims to solve the discovered knowledge gap by implementing a combination of study methods that will collect information from Gen Z students through surveys and group interviews. The study will evaluate students' learning preferences while assessing instructor-led and student-driven learning environments for creative design instruction. The findings will help curriculum developers and educators develop efficient practices because they will understand which techniques lead to the most effective learning outcomes for students in this generation (Choudhary and Pandita, 2023; Purmono, 2023; Nwajiuba and Onyeneke, 2022). The educational situation demands complete knowledge about Generation Z students' inclination between self-guided learning and instructor-led directions in creative design studies. This investigation requires awareness of the educational impact it will create to help future generations learn in a responsive learning environment.

Literature review

Lecturer-facilitated learning vs self-directed learning

Creative design education requires a well-structured framework that effectively integrates lecturer-facilitated and self-directed learning (SDL). Studies indicate that traditional lectures occupy most classrooms, but these teaching methods prevent students from becoming creative (Hidayati et al., 2019). Pedagogical strategies are most effective when teachers design assignments that encourage collaboration and independent thinking (Wahyudi and Winanto, 2018). Aziz et al. (2023) state that developing students' creative potential and curiosity requires lecturer facilitation. The self-directed learning strategy proves effective for students in enhancing their problem-solving abilities and knowledge acquisition (Sajeevan and Jose, 2018). The combined use of SDL strategies with group tasks enhances student involvement and develops

advanced cognitive abilities, as per Wendt et al. (2021). Studies show that integrating self-directed learning components under a supportive teaching environment leads to an optimal learning climate that drives creativity development (Wahyudi et al., 2018; Gee and Towers, 2016). A new pedagogical approach must combine lecturer guidance with self-directed learning opportunities to develop creativity in creative design education at the university level, according to the post-COVID-19 demands (Rapanta et al., 2020). Students gain a much richer educational experience through this combination of teaching approaches because the creative industries demand complex preparations.

Preferred learning methods of generation Z

The academic environment experiences profound changes because Generation Z (Gen Z) learners exhibit characteristics and learning preferences. The student population prefers modern interactive educational approaches that use technology as a central component instead of traditional learning approaches that value objective, rational thinking over subjective creativity. Wiesel explains that Gen Z students prefer collaborative visual approaches requiring innovative educational systems to unite creative methods with technology (Wiesel, 2023). According to Park and Lee (2022) study on design studio creative thinking dynamics, design education must adopt experiential creative learning. Atmaja and Khalid (2023) state that traditional teaching methods fail to meet Gen Z's needs, so they propose using technological approaches that develop engagement and critical thinking skills. The requirement for new educational approaches emerges in multiple studies that examine digital literacy development using interactive multimedia, besides demonstrating that Gen Z creative design students need specialized teaching frameworks (Natsir et al., 2022). The analysis demonstrates that current teaching structures need reform to accommodate Generation Z learning styles because this approach will create supportive conditions for creative growth in design domains (Walinski et al., 2022; Park and Kim, 2021).

Preferred teaching delivery methods for generation Z

Developing a new framework for teaching Generation Z creative design becomes essential because their educational preferences differ from those of previous generations. All educational delivery should use interactive technology tools because Generation Z strongly prefers these environments for learning. The educational preferences of students stem from their experience with digital interfaces, according to Pramezwary et al., which demands a re-evaluation of traditional teaching practices. This study investigates online food delivery services in general but provides no specific analysis of educational environments (Pramezwary et al., 2023). The educational settings today fail to address the needs of Generation Z, according to Kim, while showing the necessity of developing new e-learning approaches that extend learning paradigms (Kim, 2024). The findings of Budiman and Franky support the requirement for teaching strategies that use interactive and group-oriented methods in educational settings (Budiman and Franky, 2021). Lin and Chang (2022) have developed a teaching method that evolves through different teaching approaches to keep students engaged and motivated in computer networking courses. The study by Vizcaya-Moreno and Pérez-Cañaveras (2020) reveals that Generation Z students prefer visual and relevant instructional techniques, indicating that educational techniques must align with these learning traits in nursing education. These studies demonstrate an immediate need to

create specific educational frameworks that embrace and leverage Generation Z students' preferences, specifically for creative design classes requiring innovation (Huang, 2023). Combining educational insights into a new organizational framework will lead to better student results alongside more effective educational methods for this developing student population.

Technological integration

Beyond pedagogical methods, technological tools are crucial in shaping Gen Z's learning experiences. Technology within creative design helps different fields develop innovative capabilities while becoming more flexible. Traditional methods fail to provide an integrated system that connects technology with creative procedures. A study by Uteshkalieva et al. (2022) shows that interactive technologies enhance young learner creativity by offering personalized lessons that develop essential skills and individual growth. Developing creative support tools reveals an insufficient understanding of how technology affects creativity in different fields, which requires more complex assessment frameworks (Hashim, 2021). Modern technology integration into educational paradigms allows schools to develop creative specialists with critical and innovative thinking abilities (Ahtohba et al., 2024). Educators who want to integrate technology into their instruction creatively must develop a potent blend of technological pedagogical and content knowledge according to the Technological Pedagogical Content Knowledge (TPACK) framework (Koehler et al., 2011). Significant progress can be achieved by studying collaborative digital environments, which boost creative output among designers, thus requiring the creation of integrated framework models combining technological elements with theoretical perspectives (Karakaya and Demirkan, 2015). Creating a specific framework dedicated to technological integration remains essential to promoting effective digital transformation of creative approaches and methods between different disciplines.

Cultural and social influences

An appropriate model must be developed to explain the complex relationships between creative design and cultural and social influences in human interaction. The authors highlight that urban design needs social attributes to implement creative placemaking, which activates community participation and cultural festivities (Ramli and Ujang, 2021). Yuan and Zhou establish that cultural environments substantially influence creativity through their findings, showing that cultural power distance variations modify team creativity and individual performance in multicultural contexts (Yuan and Zhou, 2015). The authors of Zheng et al. (2022) present evidence demonstrating how cultural variations create distinct creative interpretations across different societies, thus requiring designers to grasp multiple cultural influences in their work processes. According to Chua et al. (2014), organizational and national cultures deserve investigation because enterprises depend on cultural frameworks for creativity. The growing field demonstrates the work of Meng and Li, who researched how digital components transform traditional cultural materials into new creative digital products (Meng and Li, 2023). Through their findings, Simonton and Ting verify how cultural diversity promotes individual and group creativity, highlighting the crucial need for social factors in design thinking (Simonton and Ting, 2010). The available literature establishes an immediate need for a new conceptual model to link cultural principles

with social connections and creative design approaches, which would boost design results. Given these cultural influences, understanding how Generation Z students navigate SDL and LFI in creative disciplines is critical for designing effective pedagogies.

Materials and Methods

Literature review findings have informed the study design in a significant way by identifying the need to balance lecturer-facilitated learning and SDL in creative design education. The literature review suggested that Generation Z students value autonomy but also value structured guidance, so an ideal model of learning would merge the two approaches. Furthermore, study gaps in SRL strategy, motivation, and engagement guided the study's methodology to a mixed-methods methodology that identifies quantitative trends and qualitative understanding of students' preference for self-learning instead of lecturer-assisted learning in creative design teaching. A mixed-methods design is proposed to explore Generation Z's preference for self-directed over lecturer-assisted learning in creative design education. The approach involves collecting quantitative and qualitative data to understand such preferences' determinants holistically. While surveys provide generalizable trends, focus groups offer more profound insight into the motivations and challenges behind learning preferences. First, a well-structured web-based questionnaire will be distributed amongst 18-25-year-old undergraduate students taking creative design courses in different colleges of higher studies. The justification for sample size needs to perform a power analysis to achieve adequate statistical power by incorporating effect size and significance level (α=0.05) and desired power (typically 0.80). The sample size needs justification through previous studies about learning preferences in creative education when power analysis proves impossible. The research gathers SDL data through Likert-scale questions, which evaluate students' learning independence, motivational factors, and ability to regulate their studies. On the other hand, the LFI measurement employs items to determine students' perceptions of instructor involvement in structured assignments and feedback quality. The reliability and replicability of the study will increase due to well-defined operational definitions supported by tested measurement instruments. The questionnaires would survey their inclinations toward SDL and lecturers' offered courses, viz., the adoption of autonomy, motivation, and assessment measures perceived. Quantitative data will be analyzed using descriptive statistics to summarize learning preferences, while inferential statistics (t-tests and ANOVA) will assess differences across demographic groups.

This step aims to identify overall trends and associations among the target population. Focus group discussions will then be conducted to collect qualitative data further to explore the contextual determinants of such learning preferences. Semi-structured interviews would be done with 6-8 participant groups by a trained interviewer in person or through video conferencing software. The interviews would address students' experiences, beliefs, and determinants of culture, technology, and pedagogy that influence their learning decisions. Thematic analysis will analyze the qualitative data to identify persistent themes and patterns. Themes will be derived using open, axial, and selective coding. Initially, open coding will identify key concepts and recurring patterns in participant responses. Next, axial coding will establish connections between themes by categorizing relationships among factors such as motivation,

engagement, and technological influence. Finally, selective coding will refine these themes into core categories that align with the study's study objectives, ensuring a structured interpretation of Generation Z's learning preferences in creative design education. To ensure ethical standards, informed consent will be obtained from all the participants, emphasizing voluntary participation and confidentiality. The data will be kept confidential, and the participants' identities will be protected throughout the study. Pilot testing of the focus group guide and survey tool will be conducted to ensure validation of the tools to enhance validity and reliability. Through the convergence of these quantitative and qualitative approaches, the study hopes to offer an in-depth understanding of Generation Z's learning process in creative design education and thus inform the design of designed pedagogical interventions that are responsive to the uniqueness of this generation.

Results and Discussion

The theoretical references can be illustrated in *Figure 1*.

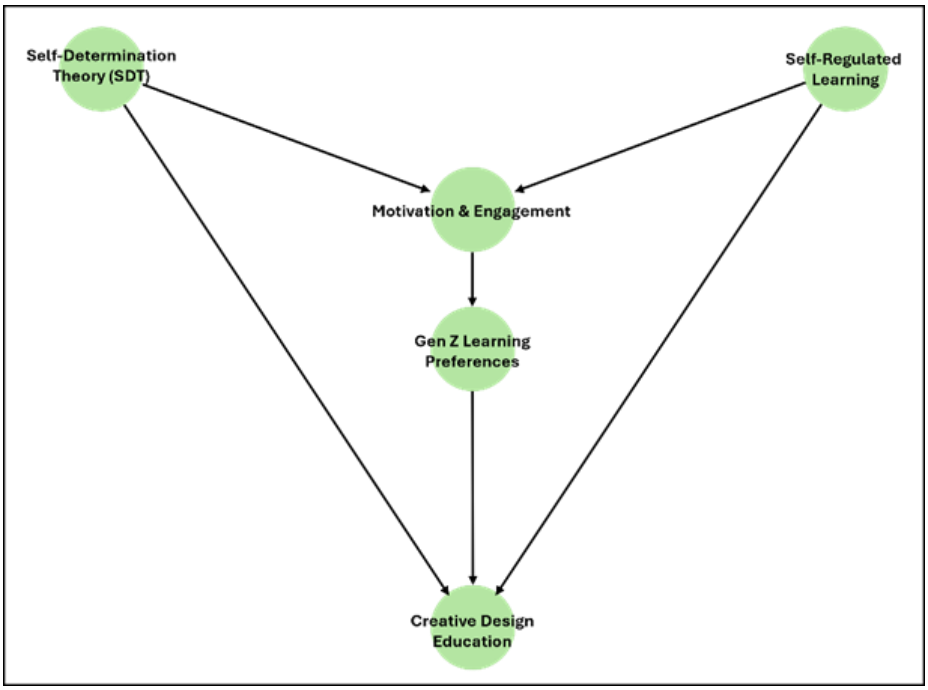

Figure 1. *Theoretical references developed for this study.*

Self-Determination Theory (SDT)

Self-determination theory (SDT) by Deci and Ryan assumes that human beings are born with three psychological needs: autonomy, competence, and relatedness, which, when satisfied, facilitate intrinsic motivation and involvement motivation. SDT provides a valuable framework for understanding the balance between self-directed and lecturer-facilitated learning in Generation Z creative design education. Gen Z students, having grown up in an era of high access to information in a digital age, would rather have learning environments that grant them autonomy to allow self-exploration and application of imaginative ideas. This aligns with SDT's emphasis on autonomy as a principal predictor of intrinsic motivation. Additionally, when learning environments

open learners to possibilities of developing competence through demanding yet achievable activities and relatedness through teamwork, Gen Z students are likely to meaningfully interact with the learning content, inclining towards self-determination learning strategies. Alternatively, SDT also accounts for other situations where lecturer-led learning is preferred. Where the students are low in competence or have sophisticated design problems, teacher-designed guidance can satisfy the need for competence through direct guidance and feedback. Learning supported by lecturers can also facilitate relatedness by creating a supportive learning environment, engaging those who would otherwise be alone in independent situations. Thus, SDT posits that Generation Z tastes more non-binary, though, rather than binary in the sense that their learning contexts meet or do not meet the intensity of psychological needs. Such dynamic aids in shaping hybrid classrooms for teachers so they can suit autonomy with supporting conditions to respond to the situational and varying tastes of Generation Z students who enter new design areas.

Self-Regulated Learning (SRL)

Self-Regulated Learning (SRL) is a prime driver for Generation Z's preference for self-directed over lecturer-facilitated learning in creative design education. SRL consists of students actively controlling their learning processes through goal setting, self-monitoring, and self-reflection. Generation Z, born into a digital world, is accustomed to autonomy and tailored learning experiences that align with SRL. This category also prefers independent learning environments where they can apply technology to access materials, interact with other students, and customize their learning activities to suit themselves. However, the effectiveness of SRL depends on individual learners' ability to regulate their learning approaches, which varies significantly. The appropriate application is found in creative design education. Projects in creative design typically entail iterative processes, thinking critically, and problem-solving that are promoted effectively through proper self-regulation. Students with high SRL competencies tend to be more involved with design work, test innovative ideas, and persevere regardless of obstacles. On the other hand, fewer self-regulation-able students might learn better in lecturer-led learning settings with structured support and feedback. Thus, teachers need to know how SRL influences learning preferences to create plans that balance autonomy with the support required for effective teaching, maximizing outcomes in creative design fields.

Conceptual framework

The theoretical model synthesizes Self-Determination Theory (SDT) and Self-Regulated Learning (SRL) to study Generation Z's learning mode as self-directed versus lecturer-assisted learning in creative design studies. *Figure 2* presents the proposed hybrid learning framework, synthesizing SDT and SRL in creative education. Ryan's SDT defines the theory of autonomy, competence, and relatedness-motivated motivation as central to motivating students in creative fields. While SDT explains motivation and autonomy, SRL provides a framework for how students regulate their learning in both self-directed and structured environments. This theory is congruent with Gen Z's learning tendency as self-regulated learning, which allows them to find knowledge by themselves and use creative thinking. This theory is congruent with Gen Z's learning tendency as self-regulated learning, which allows them to find knowledge

by themselves and use creative thinking. On the other hand, Zimmerman's SRL emphasizes learners' capacity to direct learning through setting goals, regulating progress, and evaluating the consequences. Since Gen Z students are raised in the digital age with customized and interactive schooling, SRL equips them with the instruments to manage self-learning and guide education successfully. The framework further suggests key study gaps, such as limited study on SDL in design creativity, lack of representation of mixed learning models, and limited knowledge of lecturer-facilitated learning. The gaps suggest a need for an education strategy marrying guided guidance and individual effort to infuse students with technical expertise and creative autonomy. The model extends SDT and SRL to concrete applications for creative design learning. SDT promotes motivation and autonomy to allow students to become independent learners and work on design activities with interest. While doing that, SRL facilitates the acquisition of self-regulated learning approaches and empowers students with the capacity to learn effectively. These programs fill the gaps in the learning approach and result in a balanced conceptual framework that includes both self-directed and lecturer-facilitated learning. With this method, the learners enjoy planned guidance while being given independence, enabling them to gain creativity, problem-solving, and flexibility. By adopting this model, educators can design more responsive and adaptive curricula, fostering a learning culture that addresses Generation Z's specific school needs in design creativity.

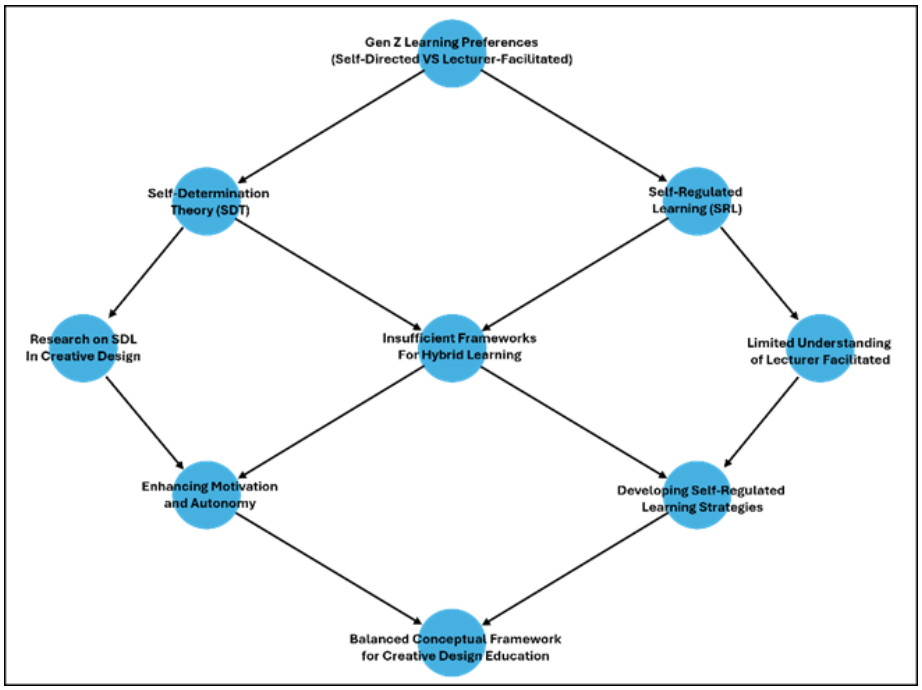

Figure 2. *A hybrid learning framework for Generation Z based on integrating self-determination theory (SDT) and self-regulated learning (SRL) in creative design education, developed for this study.*

The motivational factors proposed by SDT, together with learning strategies proposed by SRL, induce generational learning behaviors in Z students. DDT emphasizes the relevance of addressing autonomy needs along with competence and relatedness goals to foster intrinsic motivation and, therefore, guide Gen Z students to control their learning process actively. SRL operates at the same level, positioning

students in control of their learning, actively setting, monitoring, and reflecting on their goals as they learn. In unison, SDT and SRL boost student independence and motivation. In this regard, SRL proves to be an important, crucial foundation for students to develop personal skills that can be used in self-directed learning, where it will impact the success of a student's learning in the field of Creative Design education. The conceptual paper indicates Generation Z's bimodal learning style, their preference for SDL, and their enjoyment of the benefits of lecturer-supported learning in design education. Integrating Self-Determination Theory (SDT) and Self-Regulated Learning (SRL) provides a theoretical foundation for examining motivation, autonomy, and self-regulation in learning behavior. SDT proposes that when the students' autonomy, competence, and relatedness needs are satisfied, the students show more intrinsic motivation and interest, consistent with Gen Z's preference for technology-mediated flexible learning. While the students would want to experience autonomy in determining design concepts and designing innovative products, they also need systematic facilitation in acquiring higher-level design skills, critical thinking, and problem-solving. The thematic qualitative data analysis identified dominant trends like the utilization of online learning tools, the importance of collaborative interaction, and the necessity for customized learning pathways, which established the need for a hybrid solution to integrate SDL and teacher-led mentorship facilitation. Educators must balance autonomy with structured guidance to foster effective learning environments, ensuring students can explore independently while receiving necessary mentorship and feedback. This is particularly critical in creative design education, where iterative processes, collaboration, and expert critique are essential for skill development. In addition, the study contextualizes considerable gaps in current education systems, especially the absence of well-defined hybrid models that harmoniously combine self-directed and lecturer-led learning.

Most current curricula are either based on lecturer-led learning or entirely independent learning without checking Generation Z students' dynamic and fluid learning needs. The study highlights the value of adaptive learning models of interactive technology, real-time feedback systems, and collaborative locations, which allow students to balance autonomous inquiry and guided pedagogy. Second, results indicate that motivation and engagement act as process mediators of learning by impacting how students interact with SDL strategies and react to lecturer intrusion. People with good self-regulation are likely to succeed in SDL settings. Other people can, however, be helped through formal, instructor-driven interventions for creativity and skill building. Based on these facts, the hybrid model is a balanced approach offering structured flexibility. The instructors offer structured independence to help the students build independent creative problem-solving abilities and be equipped with guided mastery in design learning. While the paper effectively discusses the theoretical implications of integrating Self-Determination Theory (SDT) and Self-Regulated Learning (SRL) in creative design education, it lacks concrete recommendations for educators. The study should provide specific pedagogical strategies to enhance its practical value, such as structured mentorship programs, blended learning models, or technology-enhanced learning tools that balance autonomy with guidance. Clear implementation steps, case study examples, or best practices would help bridge the gap between theory and classroom application, ensuring educators can effectively apply the proposed hybrid learning framework.

Conclusion

This study introduces a hybrid learning model that explicitly addresses Generation Z's design education requirements, which closes the lecturer-guided to self-directed learning gap. Using the combination of Self-Determination Theory (SDT) and Self-Regulated Learning (SRL), the study underscores autonomy, competence, motivation, and engagement in developing adequate learning settings and a conceptual framework in which an integrated approach merging self-directed learning to foster autonomy with structured instruction for scaffolding and collaboration serves as an optimal model for supporting Generation Z learners in creative education. At the same time, structured instruction allows expert scaffolding, collaboration, and feedback loops required in learning skills. The proposed model presents a pedagogical model with a balanced strategy, whereby students are provided autonomy to take control of learning and supported through structured interventions as and when needed. These concepts have broader implications for educational institutions, inviting them to adopt adaptive curricula that offer space for varying learning needs. Subsequent studies must investigate longitudinal evaluations of hybrid learning models and their effects on creative abilities, never forgetting that learning strategies must be adaptable enough to fit changing generational requirements. In the long run, by creating a learning environment that balances autonomy and guided instruction, teachers can maximize creativity, motivation, and ultimate achievement in Generation Z learners in creative design fields. By integrating SDL and LFI, this hybrid model provides a transformative framework for creative design education, ensuring that Generation Z students receive both autonomy and structured mentorship, fostering deeper learning and innovation.

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Conflict of interest

The authors confirm that no conflict of interest is involved with any parties in this paper.

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