

Overcoming Challenges in Higher Education: Design Thinking as a Tool for Innovation During Crises

Madhav Murthy¹, Dr. D N Murthy²

1- Research scholar, ISBR Research Center, Bengaluru

2- Professor, ISBR Research Center, Bengaluru

Corresponding author: madhavnic@gmail.com

Abstract:

Design thinking is a user-centric and iterative approach to defining and tackling problems. It offers a creative yet structured approach for addressing large-scale challenges in higher education. Design thinking is a problem-solving methodology that has gained popularity in recent years due to its effectiveness in generating innovative solutions to complex problems. In the context of higher education, design thinking has become increasingly relevant in the face of crises such as the COVID-19 pandemic, which has disrupted traditional teaching and learning methods. The crises in higher education could include access, affordability, equity, and quality thinking problems, failure to adapt to the increasing need for higher level learning, quality of teaching and learning, decline of the efficacy of a college degree as a guarantee of value, etc. This article explores the concept of design thinking and its potential to serve as a catalyst for innovation in higher education during crises. It will also examine the challenges faced by higher education during crises and showcase through examples that demonstrate the successful application of design thinking in higher education. Finally, the article will discuss the benefits and impact of adopting design and acknowledge the limitations and challenges of its implementation.

Keywords: Crises, higher education, innovation, design thinking

1.0 Introduction

1.1 Design Thinking: Design thinking is an innovative problem-solving approach that focuses on understanding and empathizing with users to create effective solutions. Design thinking has emerged as a powerful approach to problem-solving in various fields, and its application in education is transforming the way we teach and learn. By incorporating design thinking principles into the classroom, educators are equipping students with the skills and mindset necessary to thrive in an ever-changing world. Design thinking is a problem-solving and innovation methodology that looks at challenges and opportunities from a multi-dimensional perspective. It emphasizes a holistic and user-centric approach to tackle complex problems and create innovative solutions.

- Design thinking is used for creating business models and strategies that are customer-centric and innovative.
- It is a structured approach that helps teams to efficiently solve problems and develop solutions.
- Design thinking is a mindset that focuses on users, iteration, and a willingness to fail.

The multi-dimensional nature of design thinking is explained as follows;

1.1.1 Human-Centred: At the core of design thinking is the recognition that any problem, regardless of its complexity, can be addressed by focusing on the needs, desires, and experiences of the end users. This human-centred approach involves empathizing with users, understanding their perspectives, and designing solutions that resonate with them.

1.1.2. Empathetic: Design thinking places a strong emphasis on empathy. Design thinkers aim to step into the shoes of the end users, seeing the world from their perspective. This deep understanding of users' feelings, challenges, and aspirations is a crucial aspect of creating meaningful and user-friendly solutions.

1.1.3. Iterative: Design thinking is an iterative process. It encourages the exploration of multiple solutions and continuous refinement. Design thinkers' prototype and test their ideas, making improvements based on feedback and learning from each iteration.

1.1.4. Collaborative: The process of design thinking often involves cross-functional collaboration. Teams with diverse backgrounds and expertise come together to brainstorm, ideate, and co-create solutions. This collaborative aspect encourages a diversity of viewpoints and skills, leading to more robust solutions.

1.1.5. Creative: Design thinking fosters creativity by encouraging individuals and teams to think outside the box. It is about generating unconventional ideas, experimenting with novel approaches, and embracing uncertainty as part of the creative process.

1.1.6. Systemic: Design thinking recognizes that problems are often interconnected and part of larger systems. It encourages a systemic view, where designers consider the broader impact of their solutions on various stakeholders and the environment.

1.1.7. Action-Oriented: Design thinking is not just about ideation; it is about taking action and implementing solutions. It bridges the gap between ideation and execution, ensuring that ideas are translated into practical, real-world applications.

1.1.8. Results-Driven: While design thinking is creative and empathetic, it is also results-driven. It seeks to deliver tangible outcomes and solve real problems. This approach combines the best of both worlds: creative thinking and practical implementation.

1.1.9. Versatile: Design thinking can be applied to a wide range of challenges and industries, from product design and business strategy to healthcare and education. Its adaptability is one of its most valuable attributes.

1.1.10. Continuous Learning: Design thinking encourages a culture of continuous learning and improvement. It recognizes that solutions can always be refined, and the process itself can be enhanced with each iteration.

1.2 Human-Centred Approach of Design Thinking

The human-centred approach of design thinking, as advocated by Tim Brown and others, emphasizes the importance of understanding and addressing the specific needs, perspectives, and experiences of the people for whom a solution is being designed. It involves empathy, problem definition, ideation, prototyping, and testing to arrive at innovative and user-centric solutions.

2.0 Relevance in Higher Education

In the context of higher education, the human-centred approach of design thinking is highly relevant because:

2.1 Student-Centric Focus: It prioritizes the needs and experiences of students, helping educators and institutions create learning environments, curricula, and support services that better align with students' preferences and requirements.

2.2 Improved Learning Outcomes: By understanding how students learn and what challenges they face, design thinking can lead to the development of more effective teaching methods and curricular innovations that enhance learning outcomes.

2.3 Innovation in Program Development: Design thinking encourages higher education institutions to be more agile and innovative in creating new programs, courses, and services that meet the evolving demands of students and the job market.

2.4 Problem-Solving: Many higher education challenges, such as retention, accessibility, and quality of online education, can be addressed more effectively through the problem-solving methods of design thinking.

2.5 Continuous Improvement: Design thinking fosters a culture of continuous improvement and adaptation, which is vital in an ever-changing higher education landscape (Kahu, E. R. (2020)).

3.0 Challenges faced by Higher Education Institute during Crisis

Some specific challenges faced by higher education institutions during crises include, but not limited to are:

Sudden Transition to Remote Learning: Abruptly transitioning from traditional in-person instruction to remote learning can be disruptive and challenging. According to a study published in "The Internet and Higher Education," faculty face challenges in adapting pedagogical methods for effective online teaching during emergencies (Ho et al., 2020).

Financial Strain: Many institutions experience financial difficulties due to reduced enrolment, loss of revenue from auxiliary services, and increased costs of technology infrastructure. A report in "Educause Review" emphasizes the need for financial planning and contingency strategies to address budget shortfalls during crises (Grimes & Marfia, 2020).

Student Engagement in Remote Learning: Ensuring student engagement in virtual classrooms and preventing dropouts is a significant challenge. Braun's article in "The Journal of Higher Education" discusses the importance of faculty training and innovative teaching strategies for enhancing student engagement in online learning environments (Braun, 2020).

Mental Health and Well-Being: The mental health and well-being of students and faculty can be adversely affected during times of crisis. Elmer "Psychological Trauma: Theory, Research, Practice, and Policy" emphasizes the need for mental health support and resources to address the psychological impact of crises (Elmer et al., 2020).

Technological Infrastructure: Many institutions struggle with the rapid expansion of technological infrastructure to support remote learning. Dhawan in "EDUCAUSE Review" highlights the importance of robust IT support and infrastructure to facilitate effective online learning (Dhawan, 2020).

Accessibility and Inclusivity: Ensuring equitable access to education for all students, including those with disabilities, can be a challenge in remote learning environments. Burgstahler discusses the importance of proactive measures to address accessibility and inclusivity issues in online education (Burgstahler, 2020).

Academic Integrity: Maintaining academic integrity and preventing cheating in online assessments is a pressing concern. A study published in the "Journal of Computing in Higher Education" explores the use of technology-based solutions to uphold academic integrity in virtual classrooms (Barrie et al., 2021).

3.1 Addressing the Challenges:

Key principles of design thinking, along with their applicability in addressing the challenges faced by higher education institutions during crises, are as follows:

a. **Empathy:** Understanding the needs and experiences of students, faculty, and staff. During a crisis, understanding the unique challenges and emotional experiences of students, faculty, and staff is crucial to tailoring support and solutions. For example: Through interviews and surveys, educators empathize with students' difficulties in adapting to remote learning during the COVID-19 pandemic, leading to more effective support mechanisms (Braun, 2020).

b. **Ideation:** Generating innovative ideas and potential solutions. Ideation encourages the development of creative solutions to complex problems, such as ensuring high-quality remote learning experiences.

Example: Design thinking workshops in higher education institutions generate innovative ideas for reimagining curricula and student engagement in virtual settings (Dhawan, 2020).

c. **Prototyping:** Building low-fidelity prototypes to test ideas quickly. Prototyping allows institutions to experiment with new approaches or technologies without committing to large-scale implementations.

Example: Prototyping online teaching methods enables universities to identify effective techniques and refine the virtual learning experience (Ho et al., 2020).

d. **Testing:** Gathering feedback and refining solutions based on real-world insights. Testing ensures that solutions are responsive to real-world needs and can be adjusted based on user feedback.

Example: Testing online platforms and teaching methods during a crisis allows institutions to make real-time adjustments to improve the learning experience (Braun, 2020).

e. **Iteration:** Continuously improving and adapting solutions based on feedback: Continuous iteration is vital in addressing evolving challenges and ensuring long-term effectiveness.

Example: Higher education institutions continuously adapt their online teaching methods and support services based on student and faculty feedback to enhance remote learning (Dhawan, 2020).

Design thinking has been successfully applied in other industries. Some of the examples are shared here are as follows:

Healthcare: Design thinking is used to improve patient experiences and healthcare delivery. For example, it has been applied to redesign the patient check-in process in hospitals to reduce wait times and increase patient satisfaction (Brown, 2008).

Technology: Tech companies like Apple use design thinking to create user-friendly products. The design of the iPhone, with its intuitive user interface, is an example of design thinking in technology (Kelley & Kelley, 2013).

Finance: Financial institutions use design thinking to develop customer-centered financial products and services. For instance, the design of user-friendly mobile banking apps has improved customer engagement and satisfaction (Brown, 2008).

4.0 Challenges & Limitations of implementing Design Thinking:

Implementing design thinking in higher education during crises offers valuable benefits, but it is essential to acknowledge the potential challenges and limitations associated with this approach. One key challenge is the need for a cultural shift within educational institutions. Adopting design thinking may require faculty and staff to step out of their comfort zones, embrace innovation, and engage in multidisciplinary collaboration. This cultural shift can be met with resistance, scepticism, or a lack of understanding, making it a substantial hurdle that needs to be addressed through effective change management strategies.

Another challenge pertains to resource constraints. In the face of a crisis, institutions often grapple with financial pressures, making it difficult to allocate resources to design thinking initiatives. Implementing this approach effectively may require investment in training, technology, and interdisciplinary teams, which can be demanding in resource-constrained environments. Moreover, the rapid pace of change during a crisis may make it challenging to allocate time and effort to design thinking, as immediate concerns may take precedence. While design thinking has the potential to bring innovative solutions, institutions must carefully balance these challenges with their commitment to fostering a culture of innovation and adaptability, particularly in times of crisis.

5.0 Conclusions: The future of education through design thinking

Design thinking is revolutionizing education by empowering students with critical thinking skills, fostering creativity and innovation, and preparing them for the complex challenges of the future. By incorporating multi-disciplinary perspectives, promoting active learning, and embracing a culture of creativity, design thinking offers a transformative approach to education (Tschimmel, K 2012).

While there are challenges and limitations to implementing design thinking, with the right support and resources, educators can overcome these obstacles and unlock the full potential of design thinking in the classroom. By equipping students with the skills and mindset fostered by design thinking, we are shaping the next generation of innovators, problem solvers, and changemakers.

As we look to the future of education, design thinking will undoubtedly play a central role in preparing students for the challenges and opportunities that lie ahead. By embracing design thinking, we can empower the next generation to make a positive impact on the world and create a brighter future for all.

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