Objective (Sir):

To demonstrate how Design Thinking seamlessly blends different education disciplines to produce disruptive outcomes.

Ishaan Karnani

Design is defined as a discipline of study and practice focused on the interaction between a person — a 'user'— and the man-made environment, taking into account aesthetic, functional, contextual, cultural and societal considerations (International Council of Design).

But instead of looking at design as a discipline, what if we start looking at it as a way of approaching a problem. Design can be considered as the meeting point between ANY two topics, subjects, or even disciplines.

Through our projects, we have connected seemingly unrelated sectors to each other through the process of design thinking. Some sectors connect with each other well, for example, psychology and art. In these cases, the role of design may not be apparent, but it is present. On the other hand, topics such as math and mythology are completely unrelated. So when these topics are combined together, the presence of a design intervention becomes noticeable. However, in either case, the common element is that design is present, and it's helping us intertwine various topics that would otherwise be polar opposites.

Ela Roy Nidhi -

- *Why is bridging the gap across disciplines necessary/ important?*

"it is essential to recognise that different academic disciplines are not mutually exclusive but rather complementary – and there is **real value in their integration."**

"...the world needs graduates whose imaginations and intellects have been stimulated towards **creative problem-solving and solution-finding." (**Design Thinking **& Problem Solving)**

"The modern world is increasingly characterised by complex problems that require **multidimensional solutions."**

https://wonkhe.com/blogs/how-to-bridge-the-gap-between-academic-disciplines/

- The integration….cultivates a holistic approach that considers not only the technical aspects but also the **human impact and ethical considerations.**

This interdisciplinary approach enables us to draw inspiration from multiple sources and not only think outside the box, but design new ones with **humanity and efficacy** as key design principles.

- *How does Design and Design Thinking help bridge this gap?*

The **User / Human** as the **Primary Focus across all Disciplines**

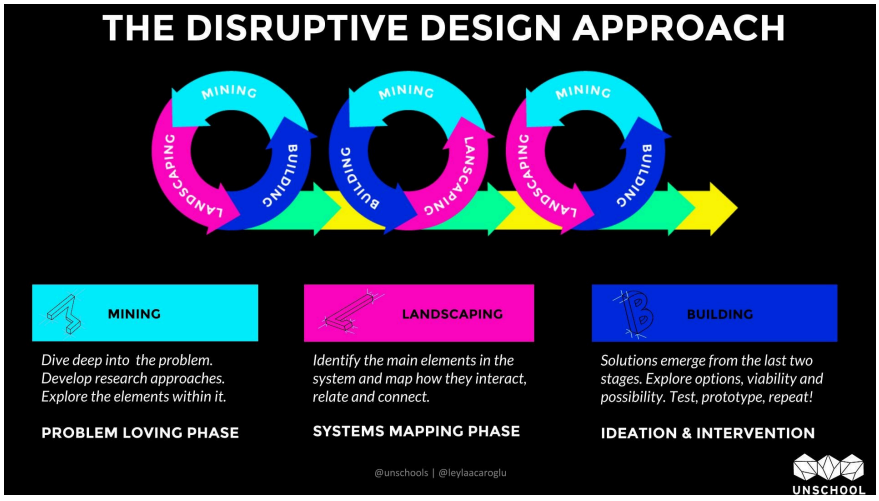
> "If you leave everything up to product design, they'll just give you a list of features. If you leave it up to marketing, it will be all sizzle," House says. "Do it together, and you've got a three-legged stool—it has to be collaborative. The other part of the three-legged stool is the user—the importance of integrating user feedback continuously. "You can't say you're including users and not include them."

An example from Marketing & Product Development

Design Thinking **& Innovation**

Design Thinking has been studied in multiple forms-as a tool, a practice, a skill.

- What is Disruptive Design?



Design is about creating something that **adds to or iterates on the existing**, and disruption is about creating a disturbance with the intent of **changing a system**. When combined, the practice of Disruptive Design is to create **intentional interventions** into a pre-existing system with the specific objective of leveraging a different outcome, and more importantly, an outcome that is likely to create positive social change.
The Disruptive Design approach is about activating sustainability principles through creative practice. It employs a **series of thinking and doing tools** that anyone can implement in a formulated processes of **mining, landscaping, and building**;
https://medium.com/disruptive-design/what-is-disruptive-design-5988e290ad88

Mining here is related to Insight mining, which helps in getting a deeper understanding of the voice of customers → inferences → insight
Good insights help transition from a current reality to a new reality → Hence achieving innovation goals

Why use the design thinking approach?
Human-centred approach → Interviews and 'how might we's' conducted for our project helped us gain insights into what different stakeholders intuitively needed

It allows individuals from different backgrounds to come together, share perspectives, and work towards innovative solutions by focusing on understanding user needs and iteratively testing ideas, rather than being confined to the rigid boundaries of a single field; essentially creating a common language for problem-solving across diverse disciplines.

Abhipsha Luitel

Design Thinking brings different subjects together to create new and useful ideas. It mixes different disciplines to solve problems in a way that focuses on people. Understanding users, testing ideas, and making improvements, help break old ways of thinking and bring innovation. It prioritizes understanding users' needs and experiences.

Why is a human-centered approach important when combining different fields?

- A human-centered approach is essential when combining different fields because it ensures that solutions are not just technically sound but also genuinely useful and intuitive for users. From our experience of working on projects that applied Design Thinking, we've seen how understanding user needs can bridge gaps between disciplines. For example, while working on the project, prioritizing user experience helped translate our solutions and approaches in an engaging and accessible format. These experiences reinforced that placing users at the center fosters meaningful innovation, ensuring that interdisciplinary solutions are practical, effective, and impactful.

https://www.bcg.com/publications/2020/the-importance-of-human-centered-design

Evidence from personal experience: (Anna)

Design thinking is an effective approach to solving strategy-related challenges because it is rooted in human-centric design. At its core, problem-solving through design thinking begins with "empathy"—gaining a deeper understanding of customers and their needs. This method encourages brainstorming beyond conventional ideas, allowing for innovative solutions that break away from existing concepts.

For example, while we were exploring ways to make skincare more accessible for beginners, a design thinking approach revealed that personal feedback significantly enhances trust in skincare brands. This insight led to the creation of stores featuring real customer recommendations—transforming what was initially a marketing challenge into a user-centered solution.

Laya

Modern designs rely on advanced analysis and modeling. No field remains naive; even everyday products like shampoo and farming equipment involve complex computational techniques. This sophistication forces specialization, as no single person can master all aspects of a field. While knowledge fragmentation has made teamwork essential, the availability of information, skilled

experts, and advanced tools has helped mitigate the challenges of specialization.- design of design

DT pedagogies act as iterative, project-based, and collaborative problem-finding and solving process (Brown, 2009; Seidel & Fixson, 2013),

UNDERGRADUATE RESEARCH DAY 2025

THEME: BRIDGING THE GAP ACROSS DISCIPLINES

Navigating Wicked Problems: The Power of Interdisciplinarity within Design

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Title: Navigating Wicked Problems: The Power of Interdisciplinarity Within Design

Abstract (384 words)

Background

The modern world is described by the term 'VUCA' (volatile, uncertain, complex, and ambiguous). Such an environment is the origin to several complex and wicked problems (Rittel and Webber, 1973) including poverty in developing economies, sustainability challenges, and the paradox of physical disconnect with improving virtual connect, amongst several other global challenges. There is neither a set algorithm to solve such problems nor can any one kind of expertise help solve them. Effectively addressing such problems requires collaboration of experts from diverse disciplines who may specialize in one or two areas but also appreciate insights from other disciplines. Such diversity is central to design thinking, a human-centered, exploratory and iterative approach to problem-solving (Brown, 2008). This approach is gaining popularity in different fields due to its ability to uncover the unobvious and disruptive solutions.

Objective

The study aims to demonstrate how Design courses seamlessly blend different education disciplines to produce disruptive outcomes and develop holistic skills in the students.

Methodology

This study is based on the reflections of six undergraduate students of interdisciplinary programs of BBA Design Management and B.Sc. Computer Science & Design at FLAME University who have successfully completed courses in Design Thinking, UX Design Project, Interaction Design, Information & Data Visualization, and Business Design in the last three semesters. Their project outcomes and learning experiences were qualitatively analysed to assess the impact of the design process in interdisciplinary learning. The outcomes were analysed for the diversity of the sectors explored, degree of innovativeness and the application of the design process.

Results

Over three semesters, these students, in total, worked on seventeen projects across the six Design courses and explored thirteen different sectors across all the projects. By working in cross-disciplinary teams and using various design methods, they generated over 1500 ideas. They prototyped selected ideas to develop desirable, variable and feasible solutions. Student testimonials reveal that students considered Design to be a medium that dissolves the boundaries across different disciplines together. They developed an ability to frame problems better and analyse existing situations. They also learnt to develop and prototype meaningful and impactful solutions for wicked problems.

Conclusion

The study unleashes the potential of a design thinking approach in the undergraduate education that encourages exploring solutions for complex problems by blurring the boundaries across different disciplines thereby producing impactful and innovative outcomes.

Keywords

interdisciplinary, design education, design$^{00}0^{00}$p

0thinking, problem-solving, wicked problems

Annexure 1: Table of Courses, Projects and Sectors

Sr. No.	Course Name	Sr. No.	Project	Sr. No.	Sector
1.	Design Thinking	i	Cosmetics	A	Skincare
		ii	Customizable Dessert Kiosk	B	Confectionary
		iii	Health of women street vendors	C	Healthcare and Retail
		iv	Social Media de-addiction and validation	D	Social Media
		v	Employee Workspaces	E	Workplace Comfort
2.	UX Design	vi	Recipe Suggesting App	F	Food
3.	UX Project	vii	Trek Planning App	G	Travel
		viii	Financial Literacy For Teens	H	Education
		ix	App for Solo Travellers	G	Travel
		x	Language Learning	H	Education
4.	Interaction Design	xi	Social Skills App for Autistic Teens	I	Special Needs
		xii	Visually Calming Software for autism	I	Special Needs
		xiii	ADHD Learning Assistance Game	I	Special Needs
5.	Business Design	xiv	Pad Care	J	Waste Management
		xv	Animal Genetic Testing	K	Biotechnology
		xvi	Products for self development	L	Self Growth
		xvii	Goa Based Restaurant	M	Dining and Catering

Annexure 2: Student Testimonials

Student 1 (BBA Design Management):

“Every course I have taken has deeply explored its subject in detail whether its Marketing Research, Finance, Branding, Economics or Machine Learning. These subjects served as the building blocks of my education.

Design thinking, in this context, acted as the glue that brought everything together. Once I started applying a user-centric approach, these challenges became easier to tackle. Understanding the target audience and exploring solutions beyond existing frameworks made problem-solving more practical and effective.

Being part of an interdisciplinary university has given me the ability to adapt to different situations. By learning to approach problems from multiple perspectives, I have developed a well-rounded understanding of business and the confidence to navigate complex challenges.”

Student 2 (B.Sc. Computer Science and Design):

“Design courses have enabled me to seamlessly blend different disciplines, enabling me to approach problem-solving from multiple perspectives. By integrating technology, user research, and creativity, I’ve prototyped ideas to address challenges such as accessibility, sustainability, and user experience. This interdisciplinary approach has sharpened my critical thinking and given me the tools to develop practical, user-centered concepts across various industries.”

Student 3 (B.Sc. Computer Science and Design):

“Interaction design merged technology and psychology. I created a digital calming interface involving spirals to help autistic individuals self regulate. In Design Thinking we addressed health challenges faced by women street vegetable vendors. Our solution was an organised market setup with hygienic facilities and a mess. This deepened our understanding of addressing

social issues. Information design simplified otherwise complex concepts so they are user intuitive. In Business design we aim to bridge the gap between customer confidence and emerging science of an animal genetic testing business. My experience has highlighted how blending technology, psychology, social science,business can drive disruptive outcomes."

Student 4 (B.Sc. Computer Science and Design):

"The approach of design thinking has opened up the possibilities I've had while working on most projects. Even in courses, where that approach doesn't necessarily need to be applied, I have started applying. This, in turn, has helped me create projects that I never thought possible."

Student 5 (BBA Design Management):

"The design thinking course helped me to be more empathetic and understand the community of users even more deeply. Through the projects i have worked on so far, the program has given me a sense of purpose—to use design as a tool for impact, innovation, and storytelling. It's helped me find my voice as a designer, one that balances creativity with practicality. It's helped me see that design isn't about making things look better; it's about making lives better. And that's the most fulfilling realization of all."

Student 6 (B.Sc. Computer Science and Design):

"As a student of Computer Science and Design, these courses have taught me how to approach problems from a broader perspective first, considering different approaches and varying stakeholder viewpoints. This process allows me to narrow down and gain better insights. The key takeaway has been the importance of viewing problems through someone else's shoes, which helps define more effective solutions. What's truly fascinating is that even as industries evolve or projects change , the core principles of design thinking remain highly applicable, providing a consistent framework for addressing challenges in any industry."

Student 7 (BBA Design Management):

“Through our courses, we learned to keep people at the heart of every project, shaping solutions that are not just functional but meaningful. More than just skill-building, they rewired our mindset. We moved from problem-solving to problem-framing, from rigid thinking to open exploration. We saw how design and business don’t just coexist, but thrive together. Whether it was mapping user journeys, prototyping ideas, or balancing viability with desirability, we learned to bridge logic and creativity seamlessly.

These courses didn’t just teach us design, they taught us to think like designers.”