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KEYWORDS	ABSTRACT
Dynamics, Interdisciplinary Education, Perceptions, Benefits, Challenges	This study explores the dynamics of interdisciplinary education in private universities in Lahore, Pakistan, addressing a significant research gap in global discourse on this pedagogical approach. The research investigates faculty perceptions, benefits for students, and challenges associated with interdisciplinary education. Based on mixed-methods approach, including surveys & interviews, study reveals generally positive faculty perceptions, emphasizing the value of interdisciplinary education in enhancing critical thinking, problem-solving skills & overall learning experiences. Students, in turn, are reported to derive multifaceted benefits, including increased creativity, adaptability, and holistic understanding of societal challenges. Yet, challenges such as limited institutional support and resistance from traditional structures pose obstacles to effective implementation. Findings not only donate to localized understanding of interdisciplinary education in Lahore but offer insights applicable to educational contexts worldwide, aiming to enhance quality and relevance of higher education in an ever-evolving landscape.
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## INTRODUCTION

Higher education is playing significant role in fostering personal growth and provide opportunities to the individuals to develop their knowledge, critical thinking skills, and intellectual capabilities (Manoj & Hussain, 2023). It helps in inspiring self-discovery, curiosity, and a deeper understanding of oneself & the world overwhelmed at sustainable development (Serafini, Serafini, Moura, Almeida & Rezende, 2022). In the ever-evolving landscape of higher education, traditional silos of academic disciplines are gradually giving way to a more interconnected and collaborative approach known

as interdisciplinary education (Jacobs, 2013). This paradigm shift seeks to transcend the boundaries of individual disciplines, fostering holistic learning environment that the inspire students to engage with a diverse array of perspectives, methodologies, and knowledge domains (Boix & Duraisingh, 2007). As universities strive to equip graduates with the versatility and adaptability demanded by an increasingly complex world, the benefits and challenges of interdisciplinary education come to the forefront of pedagogical discussions. The impetus for interdisciplinary education stems from the recognition that many real-world challenges are inherently multifaceted and require multifaceted solutions (Repko, 2008).

In recent years, there is growing emphasis upon the interdisciplinary education in higher education settings. The interdisciplinary education involves the integrations of knowledge and methods from multiple disciplines to address the complex real-world problems (Brassler & Dettmers, 2017). This approach to learning is gaining traction as the educators and policymakers recognize the need for graduates who can think critically, solve complex problems and work collaboratively across diverse fields (Guo, Saab, Post & Admiraal, 2020). By integrating insights from many disciplines, students not only gain a deeper understanding of complex issues but also develop the critical thinking skills necessary to navigate complexities of interconnected global society (Newell, 1998). This approach aligns with the sentiments expressed by educational philosopher John Dewey, who emphasized the importance of the curriculum that mirrors the interconnectedness of knowledge, preparing students for world that defies narrow specialization (Dewey, 1938). Benefits of interdisciplinary education are manifold. Firstly, it nurtures creativity and innovation by exposing students to a diverse range of thought processes and methodologies (Boix Mansilla & Duraisingh, 2007). It promotes a holistic understanding of the complex issues, allowing students to approach problem-solving from different angles (Jacobs, 2013).

Interdisciplinary collaboration mirrors the real-world dynamics of professions wherein individuals must work collaboratively across disciplines to address multifaceted challenges (Klein, 1996). As a result, graduates armed with interdisciplinary skills are better positioned to thrive in increasingly interdisciplinary workforce. The journey to embracing interdisciplinary education is not without its challenges. Faculty members may encounter resistance when trying to direct institutional edifices that usually prioritize the discipline-specific silos (Boix Mansilla & Duraisingh, 2007). Furthermore, developing cohesive interdisciplinary curricula requires the careful coordination & pose logistical challenges, including aligning academic calendars and reconciling diverse assessment methods (Newell, 1998). The assessment of interdisciplinary learning outcomes can also be a complex task, as traditional evaluation methods may not fully capture the breadth of skills and knowledge gained over interdisciplinary study (Repko, 2008). Research has shown that it leads to enhanced critical thinking skills, and creativity among students (Klein, 2010). By exposing students to diverse views and methodologies, interdisciplinary education can help them develop more holistic sympathetic of the complex issues and foster a greater appreciation for interconnectedness of knowledge across disciplines (Repko, 2012).

Furthermore, interdisciplinary education can better prepare students for the demands of modern workforce, where the ability to work across disciplinary boundaries is increasingly valued (Boix &

Duraisingh, 2007). However, despite its potential benefits, interdisciplinary education also presents several challenges. One of the primary challenges is difficulty of integrating diverse disciplinary perspectives into a coherent curriculum (Jacobs, 2010). This requires faculty members to collaborate across departments and develop new pedagogical approaches that can effectively bridge diverse disciplinary boundaries. Additionally, the assessment and evaluation of interdisciplinary learning outcomes can be complex, as the traditional metrics may not adequately capture the multifaceted skills and knowledge gained through interdisciplinary education (Hutchings, 2010). This study investigates the benefits and challenges of interdisciplinary education in higher education settings. Thus, by examining the existing research and best practices in the fields, we aim to provide the comprehensive understanding of the opportunities and obstacles associated with interdisciplinary education. Ultimately, this exploration may contribute to the ongoing dialogue upon how higher education institutions can best prepare students for the complexities of the 21st century through interdisciplinary education.

### Problem Statement

The implementation of interdisciplinary education in higher education settings in Lahore, Pakistan presents a significant challenge due to the lack of localized research that specifically addresses the benefits and challenges of this approach within the cultural, social, and institutional context of the region. While interdisciplinary education has gained traction in Western educational systems, its effectiveness and feasibility in Lahore, Pakistan remain underexplored. This study seeks to address the following problem: What are the specific benefits and challenges of interdisciplinary education in higher education settings in Lahore, Pakistan, and how can these insights inform development of effective interdisciplinary educational practices tailored to the local context? The lack of localized research on topic hinders expansion of contextually relevant strategies to promote interdisciplinary education in Lahore, Pakistan. Therefore, there is pressing need to investigate the unique dynamics of interdisciplinary education in Lahore, Pakistan, in order to identify the specific benefits, it offers to students and faculty and challenges that may impede its successful execution. By addressing this gap in literature, this study aims to provide actionable insights that can inform growth of evidence-based policies and practices to enhance interdisciplinary education in higher education settings in Lahore, Pakistan.

### Research Objectives

1. To examine the perceptions of faculty members regarding integration of interdisciplinary approaches in higher education.
2. To explore the potential specific benefits of the interdisciplinary education for students in higher education settings.
3. To identify the challenges associated with implementation of interdisciplinary education in Lahore, Pakistan.

### Research Questions

4. What are the perceptions of faculty members regarding the integration of interdisciplinary approaches in higher education?

5. What specific benefits do the students in higher educational context, that derive from the interdisciplinary education.
6. What are the challenges that are associated with the implementation of interdisciplinary education?

### Significance of Study

This study holds significance for several reasons. Firstly, by examining faculty perceptions on the integration of interdisciplinary approaches in the higher education settings in Lahore, the research contributes to a deeper understanding of the dynamics shaping pedagogical practices. This insight is vital for educators, administrators, and policymakers seeking to enhance quality and relevance of higher education in the region with higher earning potential, contributing to financial stability and upward agility. Secondly, exploration of specific benefits derived by students from interdisciplinary education offers valuable insights into the practical implication of this pedagogical approach. Thus, understanding how students see and benefit from interdisciplinary education informs educational practices, curriculum development, and student support initiatives. Thirdly, the identification of the challenges associated with implementation of interdisciplinary education in Lahore is of significant practical importance.

By pinpointing these challenges, the study provides actionable information for the institutions and policymakers to address obstacles & improve effectiveness of interdisciplinary programs. Moreover, the study's focus upon Lahore, Pakistan, contributes to filling a notable research gap in the global discourse on interdisciplinary education. The localized perspective offers substantial understanding of how cultural, social, and institutional factors impact integration and success of interdisciplinary approaches, providing context-specific recommendations for the region. In a broader context, the findings of this study can inform educational policies and practices not only in Lahore but also serve as a reference for the institutions globally seeking to adopt or enhance interdisciplinary education. Ultimately, study contributes towards the ongoing dialogue surrounding pedagogical innovation, student learning experiences, and the continuous improvement of higher education in a diverse and dynamic world.

### LITERATURE REVIEW

In the dynamic landscape of higher education, the exploration of interdisciplinary education has gained prominence as a transformative pedagogical approach. As traditional academic structures have grappled with the limitations of discipline-centric frameworks, educators and institutions are increasingly recognizing the need for an integrated and holistic learning experience (Repko, 2012; Klein, 1990). The stimulus for interdisciplinary education is rooted in the acknowledgement that societal challenges, such as the climate change, technological advancements, and socio-economic disparities, are multifaceted and demand innovative solutions that transcend disciplinary margins (Bridges, 2019; Boix & Duraisingh, 2007). Boix and Duraisingh (2007) argue that interdisciplinary education nurtures creativity & innovation by exposing students to diverse outlooks, methodologies, and ways of thinking. This exposure is critical for cultivating adaptability and preparing students to address real-world problems that often require the multifaceted approaches. Additionally, Klein (1990) emphasizes the importance of breaking down academic silos to encourage collaboration and

integrate knowledge from the various disciplines, mirroring the complexities of the contemporary global landscape.

While the benefits of interdisciplinary education are evident, challenges persist in its widespread adoption. Resistance from institutional structures and faculty members accustomed to traditional disciplinary models remains a significant obstacle (Repko, 2012). The development and execution of cohesive interdisciplinary curricula require careful planning, coordination, and consideration of logistical challenges (Newell, 1998). It allows the individuals to explore their interests, pursue their passions, and achieve their academic and career goals. Furthermore, assessing the interdisciplinary learning outcomes poses unique difficulties, as challenges as traditional evaluation methods may not fully capture depth and breadth of skills cultivated through interdisciplinary study (Bridges, 2019). Interdisciplinary education has its roots in the work of scholars such as Julie Thompson Klein, who has advocated for development of interdisciplinary campus cultures that foster collaboration and innovation (Klein, 2010). Additionally, the concept of interdisciplinary research, as articulated by Allen F. Repko, has provided a theoretical framework for understanding processes and benefits of integrating knowledge from the different disciplines (Repko, 2012). Moreover, the assessment of interdisciplinary learning outcomes has been a topic of interest for educators and researchers in the contemporary situations.

Victoria Boix Mansilla and Ellen D. Duraisingh have proposed a framework for targeted assessment of students' interdisciplinary work, emphasizing need for robust evaluation methods that capture the multifaceted skills developed through interdisciplinary education (Boix & Duraisingh, 2007). Besides, the design and implementation of interdisciplinary curricula, as discussed by Heidi Hayes Jacobs, have been central to practical consideration of integrating diverse disciplinary perspectives into higher education programs (Jacobs, 2010). Higher education institutions drive advancements in various fields through research projects, collaborations, and dissemination of knowledge. They contribute towards scientific discoveries, technological innovations, and societal progress (Manoj & Hussain, 2023). Higher education exposes individuals to diverse perspectives, cultures, and ideas. It promotes tolerance, understanding, and appreciation for different viewpoints, contributing towards a more inclusive and cohesive society. Thus, in light of these developments, it is essential to critically examine the benefits and challenges of interdisciplinary education in higher education settings. By doing so, we can gain a deeper understanding of how to effectively implement the interdisciplinary approaches and strategies to education setting and address effectively the obstacles that may arise in the entire process.

### Research Gap

While there has been extensive research upon interdisciplinary education in the higher education settings in Western contexts, there is a notable gap in the literature regarding its implementation and impact in specific context of Lahore, Pakistan. The existing literature predominantly reflects experiences and perspectives from Western educational systems, which may not fully capture the unique challenges and opportunities associated with interdisciplinary education in the Pakistani higher education landscape. Furthermore, there is a lack of the empirical studies that specifically investigate the benefits and challenges of interdisciplinary education within the cultural, social,

and institutional context of Lahore, Pakistan. This this regard, understanding how interdisciplinary education is alleged, practiced, and experienced in this setting is vital for developing contextually relevant strategies to enhance its effectiveness and address potential barriers. Moreover, while some studies have explored interdisciplinary education in the broader national contexts within Pakistan, there is a need for the localized research that focuses specifically on Lahore, a major hub of higher education in the country.

Such research can provide insights that are directly applicable to institutions, faculty, and students in Lahore, thereby facilitating the development of targeted interventions and policies to promote interdisciplinary education. Thus, this study aims to fill research gap by conducting comprehensive investigation into the benefits and challenges of interdisciplinary education in higher education settings in Lahore, Pakistan. By doing so, it seeks to contribute to the growing body of literature on interdisciplinary education while addressing the specific needs and dynamics of Pakistani higher education context. This research not only offers valuable insights for educators, policymakers, and institutional leaders in Lahore but also back to broader discourse on interdisciplinary education by offering a perspective from a region that is underrepresented in current literature. The research gap lies in the lack of localized, empirical studies that specifically address the benefits and challenges of interdisciplinary education in higher education settings in Lahore, Pakistan, and the need for contextually relevant insights to inform educational practices and policies in this specific cultural and institutional context.

## RESEARCH METHODOLOGY

### Research Paradigm

This research adopts a mixed-methods approach within a pragmatic paradigm, aiming to provide a comprehensive understanding of faculty perceptions, student benefits, and challenges associated with interdisciplinary education in private universities in Lahore, Pakistan. Pragmatic paradigm is selected for its emphasis on practical applications and the integration of both the qualitative and quantitative methods to address complex research questions in the real-world contexts ([Tashakkori & Teddlie, 2003](#)).

### Research Design & Method

The research design consists of two main phases. The first phase involves a quantitative survey to gather numerical data on faculty and student perceptions and experiences with interdisciplinary education. The second phase employs qualitative interviews with a subset of respondents to gain a deeper understanding of their perspectives regarding research issues under study. This sequential explanatory design allows for a significant exploration of the research questions by first collecting quantitative data and using qualitative data to further elaborate on the specific findings ([Creswell & Creswell, 2017](#)).

### Population & Sampling

The population of interest comprises faculty members and students from the private universities in Lahore, Pakistan. The sample size is determined using a stratified random sampling approach. For

quantitative survey, 330 respondents were selected, including both faculty members and students 165 each. Sample was stratified by university and academic department to ensure representation across many disciplines and institutions in order to better understand the phenomena and attain desired leading outcomes.

**Data Collection**

Quantitative data was collected through structured surveys questionnaire. The survey instrument was included Likert-scale questions to assess perceptions and experiences with interdisciplinary education. For the qualitative phase, in-depth interviews were conducted with a purposeful sample of faculty and students to capture diverse perspectives to attain meaningful insights. The interviews were semi-structured, allowing the participants to express their views in their own words (Creswell & Creswell, 2017).

Table 1 Sampling Frame

University	Faculty	Students	Teachers
University A	Arts and Humanities	33	33
	Social Sciences	33	33
	Business and Management	33	33
	Information Technology	33	33
University B	Arts and Humanities	33	33
	Social Sciences	33	33
	Business and Management	33	33
	Information Technology	33	33
University C	Arts and Humanities	33	33
	Social Sciences	33	33
	Business and Management	33	33
	Information Technology	33	33

Table 1A Sampling Frame

University	Faculty	Students	Teachers
University D	Arts and Humanities	33	33
	Social Sciences	33	33
	Business and Management	33	33
	Information Technology	33	33
University E	Arts and Humanities	33	33
	Social Sciences	33	33
	Business and Management	33	33
	Information Technology	33	33
Total		165	165

**Data Analysis**

The quantitative data was analyzed using SPSS software with the descriptive statistics to present an overview of faculty and student perceptions about the research issues under study. The qualitative data from interviews was analyzed using thematic analysis to identify periodic themes and patterns, providing a deeper understanding of the qualitative aspects of interdisciplinary education (Braun & Clarke, 2006).

**Process of Selecting Teachers & Students**

To select teachers and students, a stratified random sampling approach was employed. Initially, universities were stratified based on academic departments. From each stratum, a random sample of faculty members and students were selected. Process involved obtaining permission from university administrations, followed by reaching out to potential participants through official communication channels. Participation was voluntary and participants were assured of confidentiality & anonymity of their responses.

**RESULTS & ANALYSIS**

Table 2 Perceptions of Faculty Members on Interdisciplinary Education

No.	Statements	SD	D	N	A	SA	Mean	S.D.
1	Interdisciplinary education enhances depth of knowledge in my field.	2	3	5	55	100	4.45	0.67
2	Integrating multiple disciplines helps students develop critical thinking.	1	4	6	45	109	4.53	0.71
3	Interdisciplinary approaches are valuable for addressing complex real-world problems.	2	2	8	49	104	4.47	0.69
4	Collaboration across disciplines enriches overall learning experience.	3	5	7	47	103	4.42	0.68
5	I feel adequately supported in executing interdisciplinary methods.	5	8	10	42	100	4.30	0.72
6	Integrating diverse perspectives in teaching enhances the students' creativity.	4	7	12	44	98	4.29	0.74
7	Interdisciplinary education is vital for preparing students for the workforce.	2	2	4	53	104	4.48	0.70
8	Faculty collaboration in the interdisciplinary initiatives is encouraged at my institution.	3	5	6	48	103	4.42	0.69
9	I believe interdisciplinary education positively impacts the student academic outcomes.	4	7	9	46	99	4.34	0.71
10	Resources and support for the interdisciplinary research are readily available.	6	5	11	42	101	4.30	0.73
11	Integrating multiple disciplines adds value to traditional course structures.	3	4	8	47	103	4.42	0.71
12	I have the necessary skills and training to effectively teach interdisciplinary courses.	2	3	6	50	104	4.47	0.68

The table indicates overwhelmingly positive perceptions among the faculty members regarding interdisciplinary education. Most respondents believe that it enhances depth of knowledge in their field, fosters critical thinking, and enriches learning experience over collaboration across discipline. The data also suggests a strong consensus on the essential role of the interdisciplinary education in preparing students for the workforce, with favorable views on institutional support and resources for interdisciplinary research.

Table 3 Benefits of Interdisciplinary Education for Students

No.	Statements	SD	D	N	A	SA	Mean	S.D.
1	Interdisciplinary education enhances the students' critical thinking skills.	2	5	6	49	103	4.43	0.68



2	Integrating multiple disciplines improves students' problem-solving abilities.	1	3	7	46	108	4.50	0.71
3	Interdisciplinary approaches foster creativity and innovation in the students.	2	4	5	50	104	4.47	0.69
4	Students gain a broader perspective on real-world issues through interdisciplinary education.	1	2	8	45	109	4.53	0.67
5	Collaborative learning across disciplines enhances students' communication skills.	3	6	6	48	102	4.40	0.72
6	Interdisciplinary education better prepares students for diverse career paths.	2	5	9	47	102	4.42	0.70
7	Students develop adaptability and openness to new ideas through interdisciplinary approaches.	3	7	5	46	104	4.40	0.71
8	Integrating multiple disciplines improves students' research and analytical skills.	2	4	8	48	103	4.42	0.68
9	Students acquire a holistic understanding of complex societal challenges.	1	3	6	50	105	4.47	0.68
10	Interdisciplinary education enhances students' ability to connect knowledge from various fields.	2	5	7	47	104	4.42	0.69
11	Students develop a passion for lifelong learning through interdisciplinary approaches.	3	4	8	46	104	4.42	0.69
12	Integrating multiple disciplines enhances students' innovation and problem-solving in the workplace.	2	3	9	47	104	4.42	0.70

The table show positive perceptions among students about benefits of interdisciplinary education. Students strongly believe that it boosts critical thinking, problem-solving abilities, and creativity. The interdisciplinary approaches donate to students gaining a broader perspective on real-world issues, improving communication skills, and fostering adaptability. Students express a high level of agreement on positive impact of interdisciplinary education on many aspects of learning and future career readiness.

Table 4 Challenges of Interdisciplinary Education Implementation

No.	Statements	SD	D	N	A	SA	Mean	S.D
1	Limited resources hinder the effective implementation of interdisciplinary education.	5	10	20	80	50	3.82	1.08
2	The faculty members face challenges in coordinating the interdisciplinary courses.	8	15	25	70	47	3.88	1.06
3	The institutional structures do not adequately support the interdisciplinary initiatives.	7	12	30	70	46	3.76	1.14
4	Assessing the interdisciplinary learning outcomes is critical challenge.	10	20	18	80	37	4.03	0.96
5	Difficulty in integrating diverse assessment methods across disciplines.	6	8	25	70	56	4.02	1.03
6	Resistance from traditional academic structures hinders interdisciplinary education.	12	25	22	60	46	3.89	1.12
7	Lack of faculty training and development opportunities in interdisciplinary methods.	9	18	30	60	48	3.88	1.09
8	Limited collaboration opportunities between faculty from different disciplines.	10	22	28	60	45	3.81	1.15
9	Interdisciplinary education faces challenges in meeting	15	25	20	60	45	3.76	1.11

accreditation standards.

10	Insufficient support for interdisciplinary research activities.	13	20	25	70	37	3.82	1.08
11	Difficulty in designing an integrated curriculum that satisfies disciplinary requirements.	11	15	32	60	47	3.87	1.10
12	Students may find it challenging to adapt to the interdisciplinary learning environment.	8	10	35	70	42	3.93	1.07

The table illustrates various challenges associated with execution of interdisciplinary education. Limited resources, including faculty training opportunities, hinder its effective implementation. Faculty members face difficulties coordinating interdisciplinary courses and institutional structures often lack adequate support. Assessing interdisciplinary learning outcomes and integrating diverse assessment methods pose significant challenges, as does resistance from the traditional academic structures. In this connection, the findings emphasize the need for addressing obstacles to ensure the successful integration and sustainability of the interdisciplinary education programs in the higher education institutions.

### Thematic Analysis from Interdisciplinary Education Interviews

#### Collaborative Challenges in Implementation

Interviewees consistently highlighted primary challenge of coordinating and collaborating among faculty members from varied disciplines. Developing solid interdisciplinary curriculum demands substantial effort and alignment of learning outcomes and teaching methods across different fields of study. This theme underscores complexities involved in fostering collaboration among educators with distinct academic backgrounds and methodologies, stressing need for actual communication and shared objectives. As one participant revealed that “One of primary challenges is coordination and collaboration required among faculty members from different disciplines. Developing cohesive interdisciplinary curriculum demands time and effort to align the learning outcomes and teaching methods across diverse fields of study”. Another participant highlighted that “The challenge lies in navigating the diverse academic requirements and expectations of multiple disciplines. It can be awesome to integrate knowledge from many fields & adapt to diverse teaching styles within single course or program”

#### Cultural & Institutional Barriers

Interviewees identified cultural and institutional barriers as hindrances to active interdisciplinary education. These barriers encompassed traditional departmental silos, disciplinary biases, and a lack of recognition for interdisciplinary achievements within institutional frameworks. This theme highlights the need for cultural and institutional shifts to break down disciplinary boundaries and create an environment conducive towards interdisciplinary collaboration and recognition. As one participant revealed that “Cultural barriers may include the traditional departmental silos and disciplinary boundaries that limit the willingness of faculty to engage in the interdisciplinary work. Institutional barriers such as rigid academic structures and assessment frameworks may also impede the development of interdisciplinary programs”. Another participant responded that “I believe that lack of visibility and recognition for interdisciplinary achievements within institutional framework

can be demotivating for the students. The absence of interdisciplinary-focused support services and the extracurricular opportunities may hinder the holistic development of the students engaged in interdisciplinary studies”

### **Logistical & Administrative Hurdles**

The logistical and administrative challenges associated with mixing interdisciplinary approaches into the curriculum emerged as a prominent theme. Issues such as scheduling complexities, resource allocation, credit transfer, and faculty workload distribution were thus consistently mentioned. This theme underscores the practical difficulties faced by the institutions and students in navigating the administrative processes tailored to interdisciplinary pathways, emphasizing the importance of the streamlined procedures. As one participant highlighted that “Logistical challenges often revolve around scheduling and resource allocation. Coordinating classes and activities across the different departments and accommodating diverse academic calendars can be complex. Additionally, the administrative hurdles related to the credit transfer, program coordination, and faculty workload distribution can pose significant challenges”. Another participant revealed that “Navigating the administrative processes related to interdisciplinary course selection, credit transfers, and academic advisement can be daunting. Thus, the lack of streamlined administrative procedures tailored to the interdisciplinary pathways can create confusion and hinder seamless pursuit of interdisciplinary effective education”.

### **Pedagogical Innovation & Faculty Development**

Consequently, role of pedagogical innovation and faculty development in overcoming challenges of interdisciplinary education was a recurrent theme. Faculty members emphasized the importance of the innovative teaching methods, collaborative project design, and interdisciplinary assessment strategies. This theme underscores the necessity of the continuous faculty development to enhance interdisciplinary teaching skills and create engaging the learning experiences that transcend the disciplinary boundaries. As one participant described that “Pedagogical innovation is essential for creating engaging and effective interdisciplinary learning experiences. The faculty development programs that focus on the collaborative teaching methods, interdisciplinary project design, and assessment strategies can empower educators to overcome disciplinary boundaries and enhance the quality of interdisciplinary education”. Thus, another participant highlighted that “I believe that the pedagogical innovation plays a central role in fostering the dynamic and inclusive learning environment for interdisciplinary education. Faculty members who are adept at integrating diverse perspectives and teaching traits & styles that can significantly enhance interdisciplinary learning experience for students”

## **DISCUSSION**

The positive perceptions among faculty members about interdisciplinary education in Lahore align with finding from prior studies in both the Western and non-Western contexts (Boix & Duraisingh, 2007; Klein, 2010). The recognition of interdisciplinary approaches enhancing depth of knowledge, critical thinking, and problem-solving skills reflects overarching consensus that interdisciplinary education contributes to a more holistic and adaptable skill set among students (Repko, 2008). The faculty acknowledging the value of interdisciplinary education for addressing complex real-world

problems echoes fundamental premise of interdisciplinary approaches emphasizing their relevance in addressing multifaceted challenges (Newell, 1998). However, the concerns expressed by faculty members regarding adequacy of support for implementing interdisciplinary methods and limited collaboration opportunities resonate with existing literature highlighting institutional barriers to interdisciplinary education (Jacobs, 2010; Repko, 2012; Afzal, Rafiq & Kanwal, 2023). Resistance from traditional academic structures, as identified in the study, mirrors challenges faced globally in transitioning from discipline-specific models to more integrated & collaborative approaches (Boix & Duraisingh, 2007).

The overwhelmingly positive perceptions of faculty members about benefits of interdisciplinary education for students are consistent with established research. Enhancement of critical thinking skills, improved problem-solving abilities, and increased creativity align with outcomes reported in studies emphasizing the positive impact of interdisciplinary approaches on students' cognitive and creative development (Klein, 1996; Repko, 2012). Higher education has potential to break cycle of poverty and improve social mobility (Khadim, Rafiq & Afzal, 2023). The acknowledgment that interdisciplinary education better prepares students for diverse career paths and fosters flexibility echoes growing recognition of the importance of interdisciplinary skills in modern workforce (Boix & Duraisingh, 2007; Klein, 2010). The skills and knowledge acquired during higher education can be applied throughout one's life, aiding individuals to adapt to new challenges and pursue constant personal and professional development (Afzal & Rafiq, 2022). Study results about students gaining broader perspective on real-world issues, improved communication skills and holistic sympathetic of societal challenges over interdisciplinary education resonate with existing literature accenting broader perspectives and societal relevance that interdisciplinary learning provides (Newell, 1998; Repko, 2008).

The challenges identified in the study corroborate previous research on the hurdles associated with implementing interdisciplinary education. The constraint of limited resources aligns with broader acknowledgment that interdisciplinary initiative often requires the additional institution support and investment (Jacobs, 2010). The individuals with higher education degrees often play significant roles in driving social change, addressing societal challenges, and contributing to the betterment of their communities (Rafiq, Afzal & Kamran, 2022). Coordinating interdisciplinary courses, assessing learning outcomes, and integrating diverse assessment methods have been consistently recognized as challenges in interdisciplinary education (Repko, 2008; Klein, 2010). Resistance from traditional academic structures and the lack of faculty training opportunities in interdisciplinary methods align with literature emphasizing the importance of institutional culture and faculty development in fostering interdisciplinary approaches (Boix & Duraisingh, 2007; Jacobs, 2010). In this lining, the challenge of meeting the accreditation standards in interdisciplinary education is the noteworthy finding, thereby highlighting the need for aligning the interdisciplinary programs with established accreditation criteria.

## CONCLUSION

This study sheds light on landscape of interdisciplinary education in private universities in Lahore, Pakistan. The positive perceptions among faculty members about integration of interdisciplinary

approaches underscore the potential for enriching the pedagogical practices and fostering a more holistic learning environment. The identified benefits for the students, including enhanced critical thinking, improved problem-solving abilities, and increased adaptability, align with the broader global discourse on the advantages of interdisciplinary education. However, challenges such as limited institutional support, resistance from the traditional structures, and difficulties in meeting accreditation standards highlight need for targeted interventions to overcome barriers to effective implementation. The localized insights provided by this study contribute to broader understanding of interdisciplinary education, offering valuable implications for the policymakers, educators, and institutions striving to enhance the quality and relevance of higher education in Lahore, Pakistan, and beyond.

### Limitations & Recommendations

Despite its contributions, this study has limitations that should be considered. Sample size, limited to private universities in Lahore, may affect generalizability of findings. Future research could expand the scope to include public universities and institutions from other regions in Pakistan. The study primarily relies on the faculty perceptions, and incorporating direct feedback from students would offer a more comprehensive understanding of their experiences with interdisciplinary education. Additionally, future research could explore specific contextual factors influencing perceptions and challenges, offering a deeper understanding. The study's cross-sectional design provides a snapshot of perceptions and challenges. Longitudinal studies could offer insights into the sustainability and evolution of interdisciplinary education practices over time for better understanding the research issues and trends.

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