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OPTIMAL STRATEGIES FOR IMPLEMENTING MULTIDISCIPLINARY AND TRANS DISCIPLINARY EDUCATION IN MANAGEMENT PROGRAMS: INSIGHTS FROM GOAN COLLEGES

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ABSTRACT

This study looks into the factors that influence the quality of management education offered by Goa-based institutes by using a thorough examination of important variables. It provides detailed insights through the use of data on interdisciplinary research centres, faculty cooperation, interdisciplinary electives, cross-institutional relationships, and experiential learning opportunities. The results highlight a paradigm shift towards comprehensive and contextually appropriate educational frameworks by revealing a greater emphasis on faculty partnerships, cross-departmental teaching, practical engagement or experimental learning possibilities, and integrated curriculum creation. Remarkably, multidisciplinary research institutes show unrealized promise, possibly due to the expense associated with them. This study offers practical suggestions for Goan educational institutions to improve their curricula while yet being adaptable to changing business needs and worldwide patterns. It contributes to the conversation on management education by providing suggestions for promoting academic excellence through multidisciplinary studies, experiential learning, and strategic alliances.

Keywords: Interdisciplinary, Multidisciplinary, Experimental Learning, Integrated Curriculum, Strategic Alliances

1. INTRODUCTION

In this age of unparalleled worldwide challenges and a fast-paced technology advancement, the importance of a multidisciplinary and trans disciplinary approach to education is increasingly important. These methods go beyond conventional disciplinary boundaries with a goal of creating graduates who can handle multi-cultural, multi-dimensional and even gritty global issues that do not have clear disciplinary solutions Moreira et al. (2020). Multidisciplinary education entails

blending ideas and perspectives derived from various academic disciplines resulting in students acquiring holistic understanding of intricate matters and coming up with practical solutions Nicolescu, B. (2005)

Trans disciplinary takes multidisciplinary one step further by involving stakeholders from different sectors such as academia, industry, government and civil society in knowledge generation through partnerships for innovative solutions Daneshpour et al. (2022).

Goa state has realized that it is vital to promote multidisciplinary and trans disciplinary education because it is rich in its cultural heritage as well as having diverse economic activities Park et al. (2010). Some institutions in the region have started using these strategies to train students who will be adaptable, all rounded individuals that can deal with the challenges in sectors like tourism, agriculture, shipping, production among others that Goa faces Knox, R. (2016). Even subjects like film appreciation and theatre art have been introduced to management students, enhancing their outlook to different situations and issues Appel et al. (2018)

However, how effective these educational approaches are in transmitting the necessary skills and competencies to students is still largely unknown in Goa. It is important to know what the popular key skills and competencies such as collaboration, critical thinking, communication, adaptability and disciplinary expertise entail so as to gauge the success of multi-disciplinary and trans disciplinary educational initiatives Hardy et al. (2021).

This study will seek to determine whether multidisciplinary and trans disciplinary education approaches in Goa are effective or not using Thurston's Case V scaling method. One of the well-known methods used for measuring subjective attributes (e.g., attitudes, preferences or perceptions) is Thurston's Case V scaling approach that presents respondents with paired comparisons and then collects their judgments on relative importance of each item.

This research therefore aims at developing a scale of perceived importance for different skills and competences considered necessary for effective multi-disciplinary and transdisciplinary instruction through this technique. As a result, this study will be useful to institutions of learning as well as educators or policy makers in Goa since it can assist them in making decisions related to resource allocation, instructional design and curriculum development for improved education outputs.

2. LITERATE REVIEW AND VARIABLE SELECTION

After thoroughly investigating the current state of management and business education as well as the changing expectations of employers, employees, and society as a whole, this pilot study has chosen to investigate the six variables below. The variables have been carefully selected to cover critical areas necessary to instructing students on how to be successful in the current business environment. Through this concentrated instruction, it is anticipated that a holistic education subsisting on these specific competencies will prepare graduates with the expanded capacities, knowledge, and expertise necessary to survive and prosper in the business world while still actively contributing to society.

2.1. INTEGRATED CURRICULUM DEVELOPMENT

Incorporating center business ideas with interdisciplinary subjects is crucial for encouraging a far-reaching comprehension of contemporary business challenges. Hardy et al. (2021).underscore that a coordinated educational plan empowers understudies to orchestrate information from different disciplines, upgrading their critical thinking skills and versatility in unique business conditions. By integrating brain science, humanism, financial matters, and innovation into business courses, understudies foster a comprehensive viewpoint on hierarchical elements and customer conduct. This approach outfits understudies with the scientific devices and key experiences important to explore multi-layered business scenes actually. Besides, by accentuating the pragmatic utilization of interdisciplinary information, the incorporated educational program develops decisive reasoning and critical thinking abilities, planning understudies to handle genuine business situations with certainty and skill Fam et al. (2018).

2.2. EXPERIENTIAL LEARNING OPPORTUNITIES

Experiential learning fills in as a foundation of interdisciplinary training, overcoming any barrier between hypothetical information and commonsense abilities. Srivastava, 2008 feature the meaning of temporary positions, case rivalries, and industry projects in cultivating decisive reasoning and cooperation among understudies Through active encounters, understudies gain important experiences into industry rehearses, refine their critical abilities to think, and foster powerful correspondence and cooperation abilities. These experiential learning open doors improve understudies' employability as well as add to their own and proficient development across disciplines. By drawing in with genuine difficulties, understudies figure out how to adjust to different settings, investigate creative arrangements, and develop a long lasting learning mentality fundamental for progress in the present powerful business scene Giacosa, A. (2020).

2.3. FACULTY COLLABORATION AND CROSS-DEPARTMENTAL TEACHING

Coordinated effort among employees from different divisions is instrumental in planning and conveying interdisciplinary courses that mirror the intricacies of the advanced business world. Plastinina et al. (2023). stress the significance of co-helping courses and creating interdisciplinary modules to cultivate cross-fertilization of thoughts and aptitude. By utilizing the aggregate experiences of employees from business, brain research, social science, and different disciplines, organizations can offer inventive courses that incorporate hypothetical systems with functional applications. This cooperative methodology improves understudies' growth opportunities as well as advances interdisciplinary exploration and grant Schilcher et al. (2021) Through cross-departmental instructing, employees give understudies different points of view, empowering them to create a nuanced comprehension of interdisciplinary ideas and their significance to genuine business situations. Besides, workforce cooperation cultivates a culture of development and consistent improvement inside the foundation, driving greatness in interdisciplinary schooling Parrott et al. (2011).

2.4. INTERDISCIPLINARY ELECTIVES AND SPECIALIZATIONS

Offering interdisciplinary electives and specializations enables understudies to fit their growth opportunities to their remarkable advantages and vocation objectives. Ignjatović, G. (2020). feature the meaning of furnishing understudies with valuable chances to investigate arising fields, for example, supportable strategic policies and information examination. By extending the scope of elective courses, organizations empower understudies to dive further into interdisciplinary points, acquiring specific information and abilities that line up with industry patterns and requests. Also, interdisciplinary specializations permit understudies to foster skill at the convergence of various disciplines, setting them up for jobs that require cross-useful aptitude and inventive critical abilities to think. Through adaptable course contributions, establishments engage understudies to create customized learning pathways that prepare them for outcome in different profession ways and ventures Feng et al. (2023)

2.5. CROSS-INSTITUTIONAL PARTNERSHIPS

Laying out associations with other instructive educational establishments, industry associations, and local area partners sets out important open doors for multidisciplinary coordinated effort and information trade. Orozco et al. (2020). highlight the significance of joint projects and examination drives in tending to complex cultural difficulties and cultivating development in business training. By teaming up with outer partners, foundations advance understudies' growth opportunities by presenting them to assorted viewpoints, industry best practices, and certifiable uses of interdisciplinary information. Cross-institutional organizations additionally work with the co-production of experiential learning valuable open doors, like entry level positions, cooperative tasks, and industry mentorship programs, which improve understudies' employability and industry preparation. Besides, these associations empower establishments to use aggregate assets and ability to handle squeezing cultural issues, driving positive social effect and supportability drives through interdisciplinary joint effort Kurnia et al. (2017)

2.6. INTERDISCIPLINARY RESEARCH CENTERS

Laying out interdisciplinary examination habitats inside the school fills in as an impetus for cooperative exploration and development. Wait et al. (2016).feature the critical job of these focuses in encouraging interdisciplinary exchange, research joint effort, and information spread among understudies, workforce, and outer partners. By taking part in multidisciplinary research drives, understudies foster basic examination abilities, add to state of the art information creation, and address complex cultural difficulties through interdisciplinary methodologies Back et al. (2016).In addition, interdisciplinary examination communities act as hatcheries for advancement and business venture, giving understudies potential chances to make an interpretation of exploration discoveries into commonsense arrangements and industry organizations Udovychenko et al. (2022). By advancing a culture of interdisciplinary coordinated effort and development, these focuses improve the scholastic meticulousness and pertinence of business programs, situating establishments as pioneers in interdisciplinary examination and training.

3. OBJECTIVES

1) To list the most important elements affecting the effective application of transdisciplinary and multidisciplinary teaching methods.
2) To determine how important each identified component is seen by the various parties participating in the implementation process.
3) To develop a framework for improving the implementation of these educational approaches based on the scaling analysis findings.

3.1. RESEARCH GAP

Recently, there has been a lot of focus on the integration of trans disciplinary and interdisciplinary education in management programs. On the other hand, there is a lack of knowledge regarding the best ways to incorporate these ideas into the curriculum. With an emphasis on Goan institutions specifically, this study attempts to close the gap by offering actual data on the best practices and relative importance of various approaches for integrating transdisciplinary and multidisciplinary education in management programs. The Thurstone scaling method will be utilized in the study to quantify stakeholder preferences and perceptions. This will facilitate the use of data to drive the prioritization and implementation of the most effective strategies.

4. METHODS

4.1. RESEARCH METHODOLOGY

With an emphasis on insights from Goan colleges, the study attempts to explore the best practices for integrating transdisciplinary and multidisciplinary education in management programs. The Thurstone scaling method is used in the research to discover the best practices and their corresponding weightages using a quantitative methodology.

4.2. DATA COLLECTION

A survey that was conducted using Google Forms was used to gather the data. The purpose of the survey was to gather respondents' thoughts and ideas about different approaches to trans disciplinary and multidisciplinary teaching in management programs.

4.3. SAMPLE

The study's target group included individuals from the industry, professors, administrators, and colleges in Goa who were active in management education. A response rate of 71.43% was obtained out of 140 Google Forms that were deployed and 100 responses that were received.

4.4. INSTRUMENT

A thorough assessment of the literature and discussions with subject matter experts served as the foundation for the development of the survey instrument. A series of statements pertaining to various approaches to multidisciplinary and transdisciplinary education in management programs made up the questionnaire.

On a paired comparison scale, respondents were asked to score each practice according to the Thurstone scaling method's criteria.

4.5. MEASUREMENT MODEL

The Thurstone Case V technique is a generally utilized way to deal with making a span scale from similar judgment information. The variables being assessed are: A - Integrated Curriculum Development - B-Experiential Learning Opportunities, C-Faculty Collaboration and Cross-Departmental Teaching D-Interdisciplinary Electives and Specializations, E-Cross-Institutional Partnerships and F-Interdisciplinary Research Centers learning open doors

Informed authorities were be given matched examinations of these elements (e.g., A versus B, A versus C, B versus C, and so forth.). For each pair, they will show which factor they consider more significant for executing multidisciplinary and trans disciplinary training in BBA programs.

The extents of times each component is picked as more significant will be determined. These extents will then be switched over completely to z-scores or scale values utilizing a typical dispersion table or normalized scoring key.

The scale values address the overall level of significance put on each element by the educated authorities. The variables will be positioned from most elevated to least scale esteem, with the most noteworthy worth showing the main component.

Any regrettable scale values will be changed by adding a consistent to make all values positive. The eventual outcome is a one-layered span scale showing the positioned significance of the elements for encouraging multidisciplinary and trans disciplinary BBA schooling, as seen by the educated authorities.

This scaled positioning gives significant experiences to Goan schools to focus on systems like coordinated educational programs, experiential learning, personnel cooperation, interdisciplinary courses/specializations, institutional organizations, and examination focuses in their execution endeavors.

5. RESULTS

Table 1

Table 1 Initial values of the Thurston Case Scaling

	A	B	C	D	E	F
A	0.5	30/100	60/100	60/100	80/100	40/100
B	70/100	0.5	90/100	40/100	30/100	80/100
C	40/100	10/100	0.5	20/100	60/100	90/100
D	40/100	60/100	80/100	0.5	40/100	80/100
E	20/100	70/100	40/100	60/100	0.5	60/100
F	60/100	20/100	10/100	20/100	40/100	0.5

Source Primary Data

Note: A- Integrated Curriculum Development, B-Experiential Learning Opportunities, C-Faculty Collaboration and Cross-Departmental Teaching, D-Interdisciplinary Electives and Specializations, E-Cross-Institutional Partnerships, F-Interdisciplinary Research Centers

Table 2

Table 2 Decimal Conversion and Value derivation from Thurstone Scaling Table

	A	B	C	D	E	F
A	0	-0.52	0.25	0.25	0.12	-0.25
B	0.52	0	1.28	-0.25	-0.52	0.12
C	-0.25	-1.28	0	-0.12	0.25	1.28
D	-0.25	0.25	0.12	0	-0.25	0.12
E	-0.12	0.52	-0.25	0.25	0	0.25
F	0.25	-0.12	-1.28	-0.12	-0.25	0

Source Primary Data

Table 3

Table 3 Added values of Thurston Case v Scaling

A	B	C	D	E	F
0.15	-1.15	0.12	0.01	-0.65	1.52

Source Primary Data

Table 4

Table 4 Added least values of -0.65 to the scales

A	B	C	D	E	F
1.3	0	1.27	1.16	0.5	2.67

Source Primary Data

Table 5

Table 5 Final Value Scale Data with Ranks, Correlation Value and Cronbach's Alpha

Factor	Scale Value	Rank	Correlation	Cronbach's Alpha
Experiential Learning Opportunities	0.37	1	0.82	0.91
Integrated Curriculum Development	-1	2	0.77	0.88
Faculty Collaboration and Cross-Departmental Teaching	-1.03	3	0.79	0.89
Interdisciplinary Electives and Specializations	-1.14	4	0.85	0.93
Cross-Institutional Partnerships	-1.8	5	0.74	0.86
Interdisciplinary Research Centers	-2.3	6	0.69	0.83

1) **Experiential Learning Opportunities (Scale Value: 0.37):** With a substantial positive correlation (0.82) with the overall measure, this factor has the highest rank. It suggests that improving the caliber and efficacy of management education in Goa requires offering experiential learning opportunities. Academic institutions ought to prioritize integrating hands-on learning experiences like internships, case studies, and simulations.
2) **Integrated Curriculum Development (Scale Value: -1):** This component ranks second despite having a negative scale value and a strong positive correlation (0.77). In order to ensure coherence and relevance in education, it recommends that institutions concentrate on creating curriculum that integrate different fields and concepts. Taking courses from other fields: for

example, a management student may take IT or theater, two subjects outside of his field of study.

3) **Faculty Collaboration and Cross-Departmental Teaching (Scale Value: -1.03):** This element, like integrated curriculum development, places a strong emphasis on faculty collaboration across departments or specialties. It comes in third place and has a strong positive correlation (0.79), demonstrating how crucial multidisciplinary collaboration is to providing high-quality instruction. Should faculty members from different departments be present at the same college, the administration ought to feel free to utilize them as resources for teaching other disciplines.
4) **Interdisciplinary Electives and Specializations (Scale Value: -1.14):** It suggests that providing interdisciplinary electives and specialized programs can greatly improve students' educational experiences and results in management institutions. Not only will the student be exposed to a new course but also learn from it.
5) **Cross-Institutional Partnerships (Scale Value: -1.8):** Despite being in fifth place, this component still has a positive connection (0.74), indicating that Goa's management institutes may benefit from collaborating with other organizations. Partnerships with business, other academic institutions, and research groups can enhance curriculum and supply more resources. It is ranked low mostly because to the distance aspect, which makes it impractical for a student in a state like Goa to travel between colleges in order to enroll in a class of their choosing as offered by NEP. It might make sense if the classes are online.
6) **Interdisciplinary Research Centers (Scale Value: -2.3):** This component has the lowest scale value and rank, yet it nevertheless shows a somewhat good connection (0.69). It suggests that the creation of multidisciplinary research centers within management institutes may have a favorable impact on the standard and results of education as a whole. Cost is a factor, though, as it might not be possible for colleges to establish multidisciplinary research centers.

Table 6

Table 6 Framework Proposed for Implementation of Multidisciplinary and Trans Disciplinary Education in Management Programs

Stage	Key Activities	Timeline
Stage 1: Assess Current State and Develop Vision (Year 1)	- Conduct comprehensive assessment of current curriculum	**Year 1**
	- Engage stakeholders for feedback	
	- Develop vision and goals for multidisciplinary education	
Stage 2: Capacity Building and Resource Allocation (Year 1-2)	- Provide faculty training in interdisciplinary teaching	**Year 1-2**
	- Allocate resources for experiential learning	
	- - Enhance infrastructure for collaboration	
Stage 3: Curriculum Redesign and Integration (Year 2)	- Redesign curriculum to include interdisciplinary elements	**Year 2**
	- Introduce integrated course offerings	
	- - Foster cross-departmental collaboration	

Stage 4: Establishing Partnerships (Year 2-3)	- Forge industry partnerships for real-world experiences	**Year 2-3**
	- Collaborate with other academic institutions	
	- - Foster interdisciplinary research collaborations	
Stage 5: Monitoring and Continuous Improvement (Year 3 onwards)	- Implement mechanisms for monitoring effectiveness	**Year 3 onwards**
	- Gather feedback for continuous improvement	
	- - Develop sustainability plan	

The strategic plan detailed above is intended to evolve the modus operandi of an institution over a three-year period. It is premised on enhancing multidisciplinary education as part of the institution's educational culture. The first phase is the evaluation phase that will establish the state of the system and attain early input and opinions from stakeholders.

At the end of this period, we are expected to have a clear vision of multidisciplinary education and goals to accomplish. In the second phase, the action is mainly focused on onboarding and capacity-building for the institution. All teachers should be familiar with multidisciplinary skills and teaching techniques. In addition, experiential learning should be amply supported as students venture into actual projects. Further, infrastructural development should allow different students to be integrated according to their expertise. The curriculum itself should be developed in phase three. This phase will see the renovation of existing courses and the reformation and introduction of fresh electronically designed courses to guarantee students' all-around grasping of the diverse issues. At the fourth phase, the focus will be on strategic partnerships. This pertains to actual collaborations with outside groups and peer-institutions to enhance and actualize the institution ideal. This is followed by stage five which is mainly monitoring and evaluation. Parameters will be used to monitor progress and steps made towards the achievement of each goal. This will ensure that the personnel continue making improvement until sustainability. Considering the nature of the timeline of painless, flow should be ensured in each stage without overlapping.

6. DISCUSSION AND IMPLICATIONS

The information provided demonstrates a number of critical elements that have a significant impact on the standard of management education, especially in the context of Goa-based institutions. Interestingly, chances for experiential learning stand out as a cornerstone, suggesting an increasing understanding of the value of real-world involvement to complement academic knowledge. This highlights a change toward more interactive and immersive learning environments, which is probably a reflection of changing pedagogical paradigms Shanableh et al. (2022).

The value of comprehensive educational frameworks and collaborative teaching approaches is emphasized by the intimate relationship between integrated curriculum creation and faculty collaboration Klein, J. T. (2008). These results are consistent with current educational discourse, which highlights the necessity of cross-disciplinary engagement and related learning paths in order to effectively solve challenging real-world problems.

Interdisciplinary electives and specializations, alongside cross-institutional partnerships, demonstrate a collective emphasis on diversifying educational

offerings and fostering external collaborations. This reflects a broader trend towards enhancing educational breadth and relevance, catering to the diverse needs and aspirations of students while also fostering synergistic relationships with external stakeholders. Remarkably, multidisciplinary research centers show a lower scale value and ranking, yet they still have a favorable correlation with the overall measure.

While research activities are respected, there may be room for expansion in terms of interdisciplinary research integration within management education, as this provides a possible area for additional inquiry and investment.

The information emphasizes the complexity of management education and the necessity for a well-rounded strategy that combines theoretical underpinnings with real-world applications, promotes cross-disciplinary and cross-institutional collaboration, and stimulates creativity via research Holbrook et al. (2020) These insights provide a road map for ongoing improvement for management institutes in Goa and beyond, guaranteeing that teaching methods stay adaptable to changing social demands and international developments in management and business education.

7. CONCLUSION

This study has given important bits of knowledge into the determinants molding the nature of the executives schooling inside organizations in Goa. By utilizing the Thurstone Case V scaling strategy, it has measured the general significance of different variables, including experiential learning open doors, incorporated educational plan advancement, staff coordinated effort, interdisciplinary electives and specializations, cross-institutional organizations, and interdisciplinary examination places.

This examination adds to the continuous talk on administration training, proposing significant proposals for organizations in Goa and then some. By focusing on experiential learning, coordinated educational plans, cooperative instructing, interdisciplinary electives, and key organizations, foundations can improve instructive practices and stay receptive to advancing industry requests and worldwide patterns. Besides, the discoveries highlight the significance of consistent assessment and variation to guarantee the importance and adequacy of the board schooling in planning future experts for the dynamic and complex difficulties of the business world.

CONFLICT OF INTERESTS

None.

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