Fashion Education Approach in India to Implement the Concept of Sustainability

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Abstract

Today, discussions about a sustainable future are taking place all over the world, with the fashion and textile industry being the second most polluting industry after automobiles. The Agenda for Sustainable Development Goals (SDG) of the United Nations (UN) aims to protect the planet and reduce its environmental footprint by 2030, with 17 interrelated SDGs. SDG12, which focuses on responsible production and consumption, has a direct connection to fashion and textiles. To promote sustainability, this study delves into understanding the current approach to sustainable fashion education in India, particularly emphasizing educators' and industry practitioners' perspectives. A mixed method, both qualitative and quantitative approaches, was used to conduct the research, which involved a comprehensive survey targeting fashion and textile design educators and industry practitioners. The study seeks to comprehend the integration of sustainability principles into undergraduate programs, as well as the understanding and application of these principles by recent graduates. The findings indicate that educators and practitioners acknowledge the significance of sustainable practices in academic curricula. There is a sense of optimism among educators regarding the possibility of teaching and implementing sustainability principles through various strategies, including collaborative projects and practices like upcycling and recycling. Both educators and industry practitioners agree that the environmental aspect of sustainability is most crucial. Although there is a negative response to the industry's support and readiness for sustainable practices, there is a consensus on integrating sustainability into all undergraduate fashion and textile programs. Additionally, experts highlight the importance of specialized courses in this field. The discussion highlights the advancements made by academia in addressing sustainability concerns, explicitly emphasizing the role of craft-based fashion in promoting sustainable practices. The study reveals the need for a strong educational framework, and continued efforts are essential to enhance industry preparedness and increase public awareness to promote sustainable production and consumption for SDG 12. The research emphasizes the

significance of incorporating sustainability into fashion education to foster a more conscientious and sustainable fashion industry in India.

Keywords: Sustainable production and consumption (SDG 12), fashion and textile design education, framework for sustainable education, fashion and textile industry practices

Introduction

In September 2015, the United Nations introduced the 2030 Agenda for Sustainable Development, a global plan addressing environmental and social challenges. The agenda, known as the Sustainable Development Goals (SDGs), comprises 17 objectives, such as promoting sustainable consumption, protecting ecosystems, and tackling climate change. The SDGs integrate with each other and require complex strategies for promotion. To simplify, this study focuses on SDG 12, which pertains to "responsible production and consumption," as the production and consumption patterns of fashion and textiles appear to have a direct correlation with this objective. Indian fashion and textile industries are of enormous importance on a global scale, not only for their contribution to economic growth but also for their effect on environmental and social issues. This study investigates how fashion education can promote sustainable practices in fashion and textiles.

As more individuals gain knowledge about these concerns, the significance of sustainable fashion increases (Aakko and Koskennurmi-Sivonen, 2013). When it comes to sustainable fashion, creating products that consider the environmental, social, and economic impacts is crucial. The main objective of creating sustainable products is to reduce the negative impact on the environment and the well-being of individuals involved in the production process (Brismar, 2014). Recent studies highlight the urgent need for the fashion industry to adopt sustainable practices. Braungart and McDonough (2008) designed the "Cradle to Cradle" concept, advocating for the creation of self-sustaining systems through recycling and reuse. The Ellen MacArthur Foundation (2017) emphasizes the significance of a circular economy in transforming the future of fashion. The importance of closed-loop systems is highlighted, where products are reused and recycled to minimize waste.

India is a perfect fit for this approach, as its traditional crafts and textile practices already embody principles of sustainability (Bhalla, Kumar and Rangaswamy, 2018). With its rich textile heritage and significant presence in the global market, India has a unique opportunity to integrate sustainability into its fashion industry. The study conducted by Bhalla, Kumar and Rangaswamy (2018) emphasizes the importance of conducting a

comprehensive lifecycle assessment in the Khadi-handloom industry. This assessment is essential for driving rural development and ensuring sustainable production. Furthermore, Lal (2020) highlights the increasing adoption of environmentally conscious practices within the fashion industry of the country. Several designers and brands have started adopting sustainable methodologies to lessen the burden on resources.

The education sector plays a crucial role in this transformation. The sustainable fashion movement in India is experiencing significant growth, thanks to the valuable contributions from both the industry and academia. Fletcher (2013) suggests that integrating sustainability into fashion education can empower future designers to develop innovative and socially responsible designs. Claxton and Kent (2017) emphasize the importance of integrating design management into fashion curricula to promote sustainable practices among students before entering the industry. It is widely recognized that educational institutions have a significant impact on promoting and fostering sustainable practices. Özsoy (2016) highlights the significance of arts and design education in preparing future designers to tackle environmental challenges. Khandual (2018) stresses the importance of incorporating sustainability into fashion education to develop a more mindful and accountable workforce. Furthermore, it is essential to integrate sustainability into fashion and textile education to cultivate a culture of innovation and responsibility. Claxton and Kent (2017) emphasize the significance of design management strategies that prioritize sustainability. Their work aims to empower students with the knowledge and skills needed to drive positive change. The partnership between educators and industry practitioners in India is pertinent for a profound commitment to sustainability.

Approach to sustainability in fashion

Sustainability in fashion and textiles can be achieved through many approaches, as has been demonstrated by many researchers and experts in this domain. Mittelstaedt, et al. (2014) emphasize the importance of fostering collaboration among scholars, practitioners, and policymakers. They argue that this collaborative approach allows for a comprehensive exploration of the relationships between phenomena, institutions, and consumers, considering the influence of technological, political, and economic forces.

In the realm of fashion, Fletcher (2008) presents sustainability initiatives that incorporate ethical trading principles, recyclable and organic materials, and long-lasting design. These initiatives not only tackle environmental concerns but also prioritize fair treatment of employees and the long-term usability of clothing items. Aakko and Koskennurmi-Sivonen (2013) present the concept of "Considered Take and Return" for sustainable

fashion design, urging designers to contemplate the lifecycle of their products. The documentary "The True Cost" (2015) delves into the social and environmental impacts of fashion, shedding light on the actual price of production. The content highlights the substantial impacts of fast fashion, such as the degradation of the environment and the exploitation of labor in developing nations.

The concept of "circular fashion" was introduced by Anna Brismar, the founder of the Swedish consulting firm Green Strategy. Circular fashion aims to promote the proper use, distribution, and return of fashion goods to the biosphere. Green Strategy and Brismar's (2017) concept of "circular fashion" highlight the significance of adopting a comprehensive perspective on sustainability, encompassing all stages of garment production and disposal.

Ultimately, the idea of sustainability in fashion is constantly evolving, fueled by a mix of ethical values, technological progress, and an increasing recognition of environmental and social concerns. Through the integration of circular and empathetic fashion, along with the utilization of digital technologies and innovative business models, the fashion industry has the potential to significantly diminish its environmental impact and foster a more sustainable future.

The rationale of the study

The urgent need to address the environmental and social impacts of conventional fashion practices motivates the study. This research endeavors to provide a comprehensive understanding of sustainable fashion and its integration into academia through meticulous analysis and empirical insights. The objective is to foster systemic transformations in education and industry. This approach aims to foster a shift in perspective toward adopting more sustainable consumption and production practices, aligning with global sustainability goals, and promoting a more equitable fashion industry.

Sustainable fashion and textiles have significant relations with academia, industry, and society. By carefully analyzing a range of scholarly perspectives and industry practices, it becomes imperative to clearly define educational strategies that foster more responsible consumption and production aspects in fashion and textile practices, thereby advancing the SDGs. Today's students, who will become tomorrow's young professionals, play a crucial role in the industry to promote and achieve the SDGs by 2030. The research results offer valuable insights for educators, policymakers, and industry stakeholders to enhance sustainability initiatives in the fashion sector, resulting in lasting environmental and social advantages.

Objectives of the Study

The inclusion of sustainability principles in the fashion and textile design curricula of Indian universities demonstrates notable progress as well as barriers. The study aims to assess the integration of sustainability in the fashion and textile design curricula of Indian universities; explore teaching methods employed by educators to teach sustainability in fashion education effectively; and evaluate students' understanding and implementation of sustainable principles in fashion and textile design projects from educators' perspectives. The research also endeavors to conduct a thorough investigation into the prevailing industry practices and perceptions surrounding the implementation of sustainable practices among young professionals in the Indian fashion and textile sector.

Research Methodology

To fulfill the objectives of the research, a mixed-methods approach was followed. Figure 1 illustrates the research framework that guided the study. The review of literature revealed the concept of sustainability and its evolution in the field of fashion and textiles. This involved studying the work of different researchers who have contributed to the understanding and definition of sustainability in this context. The review incorporated influential works like "Cradle to Cradle" by Braungart and McDonough (2008), who introduced the concept of sustainable design. "Sustainable Fashion and Textiles: Design Journeys" by Fletcher (2013) delves into practical applications of sustainability in fashion. In addition, the analysis involved examining the definitions and frameworks presented in industry reports and scholarly articles (Ellen MacArthur Foundation, 2017).
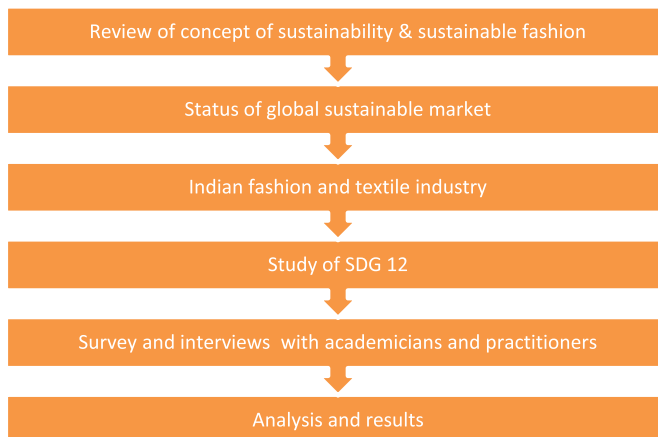
Review of concept of sustainability & sustainable fashion

Status of global sustainable market

Indian fashion and textile industry

Study of SDG 12

Survey and interviews with academicians and practitioners

Analysis and results

Figure 1: Research framework followed for the study

Primary data collection involved gathering relevant information to attain the research objectives. The process of data collection requires careful planning and execution to ensure accurate and reliable results. Two important stakeholders identified for the study were academicians and industry practitioners. A purposive sampling technique was employed to select a group of educators and professionals from prominent fashion and textile design institutions and the industry, respectively. The selection criteria included professors and lecturers who are actively engaged in developing curricula and teaching courses related to fashion and textile design education and industry practitioners comprising designers, production managers, and merchandisers from fashion brands with more than 5 years of industry experience.

Interviews and surveys were conducted with comparable questions to fashion and textile academicians and industry practitioners to understand the current situation in India. The key research questions explored through the survey and interviews were:

- How are sustainability concepts incorporated into undergraduate fashion and textile design curricula in Indian universities?

- Which teaching methodologies are most effective in imparting sustainability concepts in fashion education?

- How well do students understand and effectively implement sustainable production and consumption principles in their projects?

- What are the methods used by industry practitioners in India to implement sustainability practices, and how do they view the preparedness of young designers in this field?

- What are the challenges and opportunities that educators and industry practitioners in India face when it comes to integrating sustainable practices into fashion and textile education and industry?

The questions were modified to make them suitable for academicians and industry members. The survey instrument was carefully crafted using established frameworks and insights from prior research. The survey included a combination of quantitative and qualitative questions to provide a well-rounded understanding of sustainability in fashion and textile design education, the implementation of sustainable practices in the industry, and the challenges and opportunities in its adoption. The quantitative section of the questionnaire was planned with a 5-point and 10-point Likert scale to understand the opinions of the participants more conclusively, while the qualitative section incorporated open-ended questions to delve into the experiences and opinions of respondents.

The survey for educators involved 45 participants from various institutions in Delhi/ NCR, mainly Pearl Academy, NIFT, Amity University, FDDI, Sharda University, Institute of Home Economics, and IICD, Jaipur. The respondents who are currently full-time or part-time involved in teaching fashion and textile design, undergraduate and postgraduate courses, were selected. The survey of industry practitioners involved 72 participants, representing retail houses, online retail chains, export houses, manufacturing units, and NGOs within the fashion and textile industries across India. Table 1 summarizes the details of the survey, including sample frame and size.

Table 1: Survey with academicians and industry practitioners

S.No.	Survey Question Domains	Respondent Group	Institution/Organization Type	Number of Respondents
1	Integration of sustainability principles in curricula	Academicians	Pearl Academy, NIFT, Amity, FDDI, Sharda University, Institute of Home Economics (Delhi/NCR); IICD (Jaipur)	45
2	Effective teaching methods for sustainability	Academicians	Pearl Academy, NIFT, Amity, FDDI, Sharda University, Institute of Home Economics (Delhi/NCR); IICD (Jaipur)	45
3	Students' understanding of sustainable practices	Academicians	Pearl Academy, NIFT, Amity, FDDI, Sharda University, Institute of Home Economics (Delhi/NCR); IICD (Jaipur)	45
4	Implementation of sustainable practices in industry	Industry Practitioners	Retail houses, online retail chains, export houses, manufacturing units, NGOs	72
5	Industry challenges and opportunities	Industry Practitioners	Retail houses, online retail chains, export houses, manufacturing units, NGOs	72

To strengthen the survey findings, follow-up interviews were conducted with educators and industry professionals, whose responses were analyzed using a structured coding scheme. This approach allowed for a systematic interpretation of themes emerging from the interviews. For the personal interview, 15 participants were engaged, including 10 educators and 5 industry practitioners. All participants had more than 10 years of experience and closely worked with young designers with less than 5 years of work experience.

The survey was analyzed, and the collected data yielded valuable insights. The analysis of the responses provided a comprehensive understanding of the trends and recurring themes. Statistical analysis was employed to determine noteworthy variations and relationships among different groups. The qualitative data from interviews were analyzed by using thematic analysis to uncover recurring patterns and gain valuable insights (Wagner, et al., 2018). The interviews were analyzed by organizing qualitative data through coding. Data coding is done by data summarizing and data synthesizing. The five-step data analysis process was followed by cleaning data, data immersion, data chunking, and clustering to interpret and present the findings and results.

The findings contribute to the ongoing discussion on sustainable fashion and textile design education and provide practical recommendations for improving sustainability education and practices. Due to the paucity of the timeline, the scope of this research is limited to a brief study and an initial inquiry with academicians and industry practitioners about India's position in implementing sustainability. This will assist in establishing a clear perspective and validating the identified gaps and recommendations.

Results

A separate questionnaire was designed specifically for educators and industry practitioners. Questions were adapted to suit educators and industry practitioners, and similar questions were asked to cross-check and compare education and its outcomes in the industry. Educators were asked about the inclusion of sustainability in curricula, teaching methods, and students' awareness levels for sustainable production and consumption methods, keeping SDG 12 in mind. Similarly, industry practitioners were asked about awareness levels and effective methods for exposing young professionals to sustainable solutions.

Participants' responses on the Likert scale were analyzed by comparing positive and negative responses. In a 5-point Likert scale, responses were combined and compared; positive responses (strongly agree + agree) versus negative responses (disagree + strongly disagree) were compared to understand overall sentiment polarity. The 10-point Likert scale was analyzed for combined responses; scales 1, 2, 3, and 4 points were considered negative responses, 5 and 6 as neutral, and 7, 8, 9, and 10 as positive.

When asked about the inclusion of sustainability concepts in the curriculum (Figure 2), 63 percent of educators responded positively, 17 percent were neutral, and only 20 percent responded negatively. This confirms that, to some extent, sustainability concepts have been incorporated into the curriculum of undergraduate design

programs. To verify the outcome, a similar question was asked of industry practitioners about the awareness level of these concepts in young professionals. Figure 3 denotes 71 percent positive responses from practitioners, 18 percent were neutral, and only 11 percent gave a negative response.
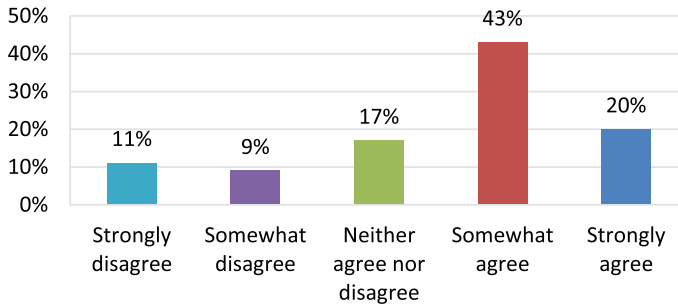

Figure 2: Academicians' response to inclusion of sustainability concepts in undergraduate fashion and textile design programs
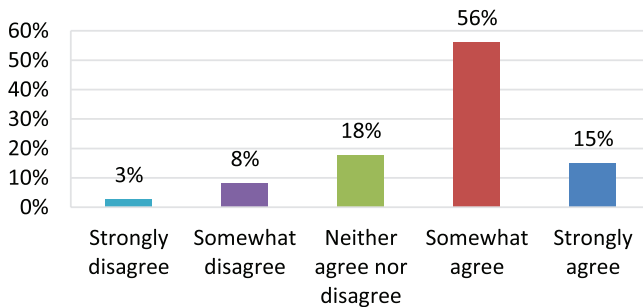

Figure 3: Industry's response to awareness level of sustainability concepts in young professionals

Figure 4 shows that, with a 95 percent positive response, fashion and textile design educators unanimously agree that teaching and learning methods can effectively implement sustainability concepts. This confirms the educators' belief and clarity regarding sustainable education and its implementation.
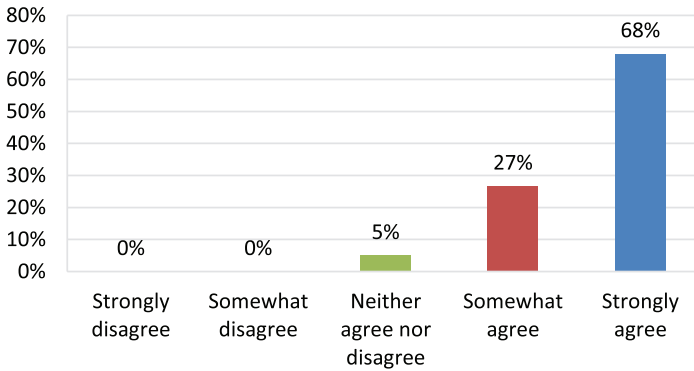
Figure 4: Academicians' response to teaching sustainability concepts to design students

To effectively impart knowledge about sustainability, it is essential to identify effective teaching methods. This question allowed for multiple answers. The most successful methods identified by educators for teaching sustainability are "group projects on global sustainable practices" and "upcycling, recycling, and deconstruction methods," with 73 percent of the respondents opting for the same (Figure 5). Research assignments, case studies, and zero waste pattern cutting were other preferred teaching methods identified for sustainability. The industry practitioners' response confirmed that "group projects on global sustainable practices" and "upcycling, recycling, and deconstruction methods" are the best ways to expose young professionals to sustainability concepts (Figure 6). Industry practitioners also gave more weight to research, co-designing, and field visits.
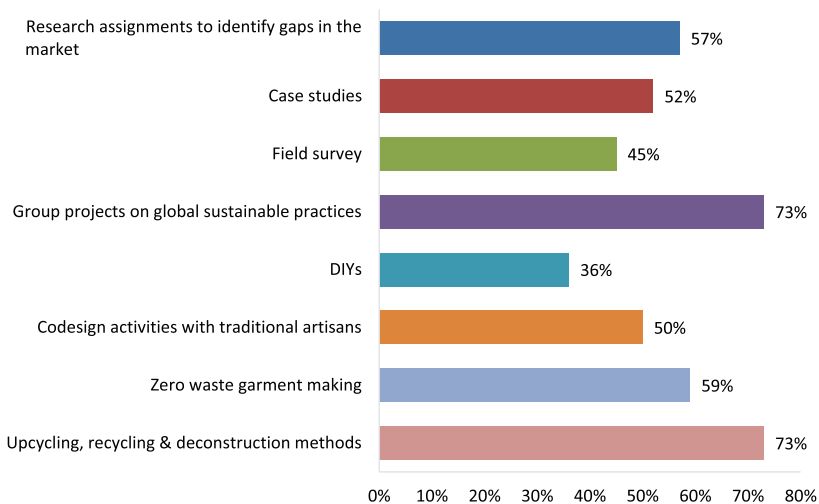

Figure 5: Academicians' response to most successful method of teaching sustainability to students
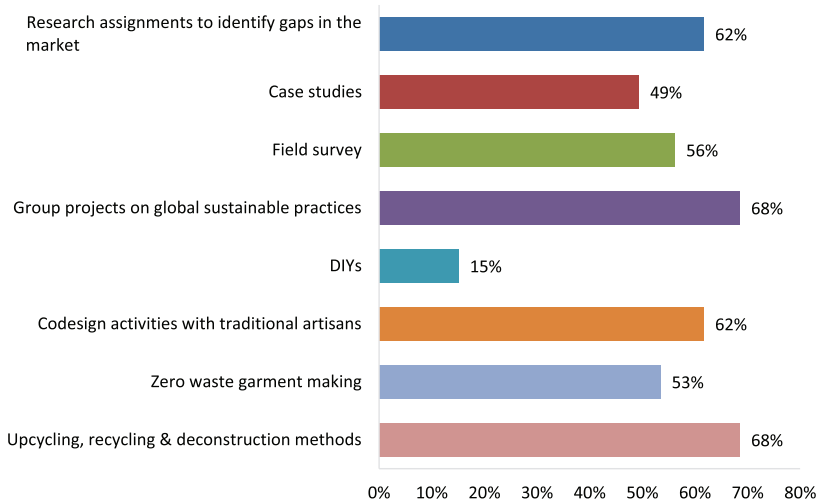
Figure 6: Industry's response to most successful method of exposing sustainability to young designers

Both educators and industry practitioners were asked about the "parameters of sustainability." Figures 7 and 8 denote that "environment" is considered the most significant aspect of sustainability. Educators rank "economy" as the least important factor, while they assign nearly equal importance to social, cultural, and aesthetic factors. Practitioners affirm that the environment is the most crucial parameter, yet, in contrast to educators, they prioritize the economy over social and cultural aspects. Practitioners gave the least weight to aesthetics when considering fashion and textiles for sustainability.
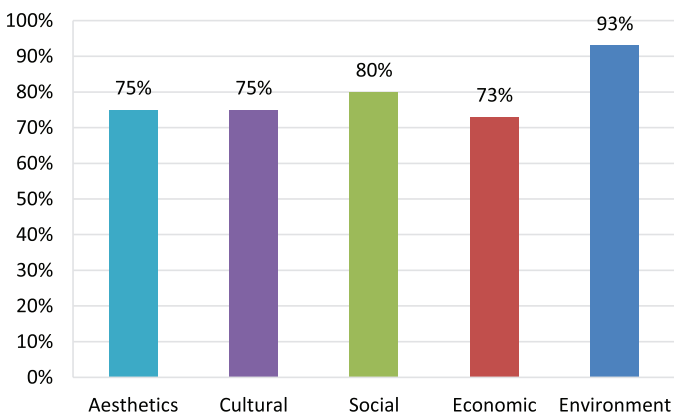

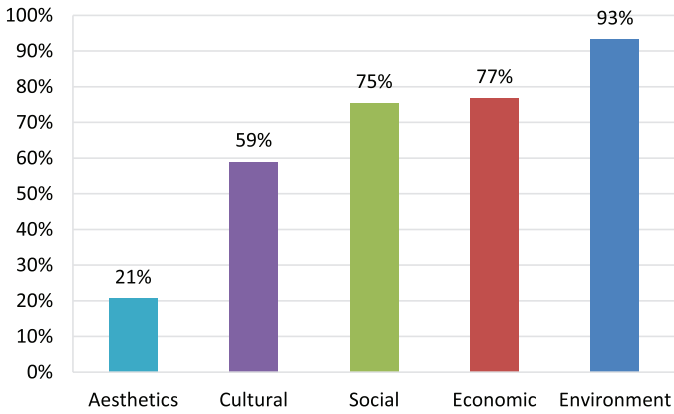**Figure 7:** Academicians' response to sustainability parameters

Figure 8: Industry's response to sustainability parameters

When asked about the awareness level of sustainable production and consumption concerns among undergraduate students, 57 percent of educators gave a positive response (Figure 9). However, 25 percent were neutral, and 17 percent felt there was a lack of awareness. It confirms some level of awareness, as more than half of the educators responded positively. This is encouraging news for SDG 12, as the journey has begun, but we still need to increase the level of awareness. Industry professionals differ from educators regarding the awareness of sustainable production and consumption concerns among young fashion and textile design professionals. As shown in Figure 10, only 27 percent gave a positive response. Considering the recent inclusion of sustainability in the educational curriculum, a positive response is anticipated when current students transition into the industry. To achieve SDG 12, the industry needs to work more and instill better awareness.
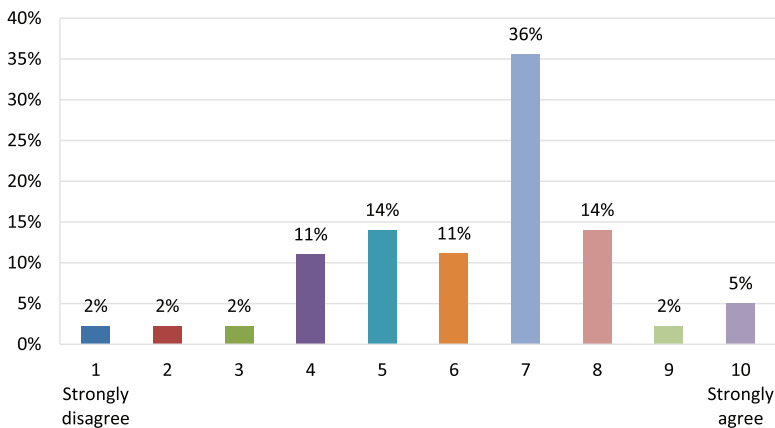

Figure 9: Academicians' response to awareness of sustainable production and consumption issues among undergraduate students
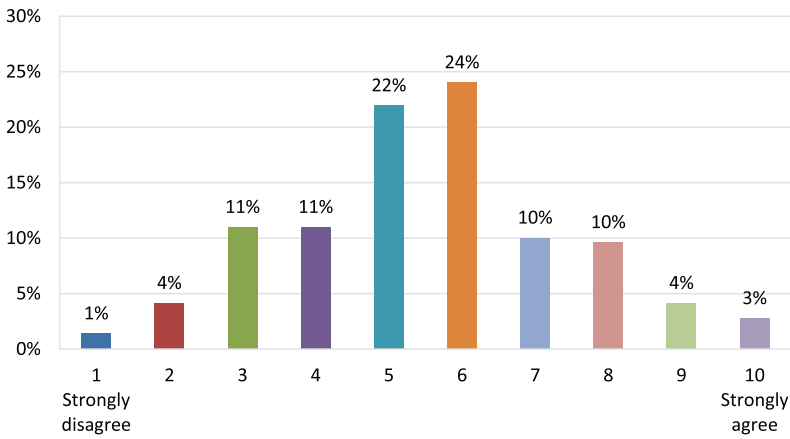
Figure 10: Industry's response to awareness of sustainable production and consumption concerns among young professionals

The educators were asked about the students' ability to apply the concepts of sustainable production and consumption methods in their final projects. Educators gave a neutral to positive response at 36 percent and 43 percent, respectively (Figure 11). Conversely, industry professionals attributed higher percentages to negative (43 percent) and neutral (33 percent) responses to a similar question (Figure 12). This confirms the incapacity of contemporary young designers to implement sustainable production and consumption methods. Industry practitioners believe that young designers lack sufficient training to tackle the challenges. The findings suggest that students need to gain a deeper understanding of sustainable production and consumption concepts.
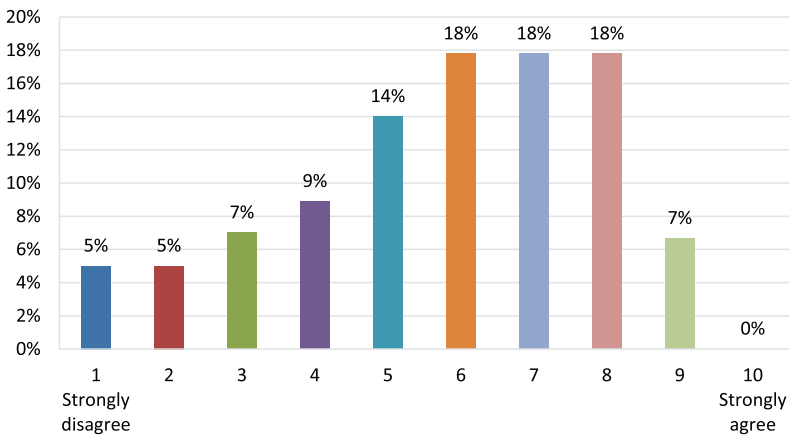

Figure 11: Academicians' response to students' ability to apply sustainable production and consumption concepts in their final design projects
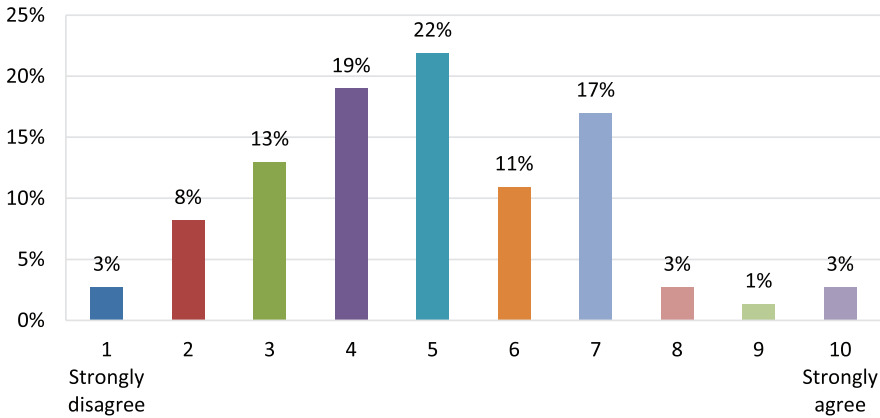
Figure 12: Industry's response to young professionals' ability to apply sustainable production and consumption concepts at their workplace

The educators seemed more optimistic about the industry's support for implementing sustainability concepts. Figure 13 denotes a 48 percent positive response. Therefore, educators are looking forward to a favorable situation in the industry. People in the industry are divided on the industry's sustainability efforts. Industry practitioners are facing real situations in the industry and understand the challenges. Figure 14 depicts a 36 percent negative response versus a 39 percent positive response, confirming that the industry is not ready yet to support sustainability, and more work and awareness are required regarding the implementation of sustainability to attain the SDGs.
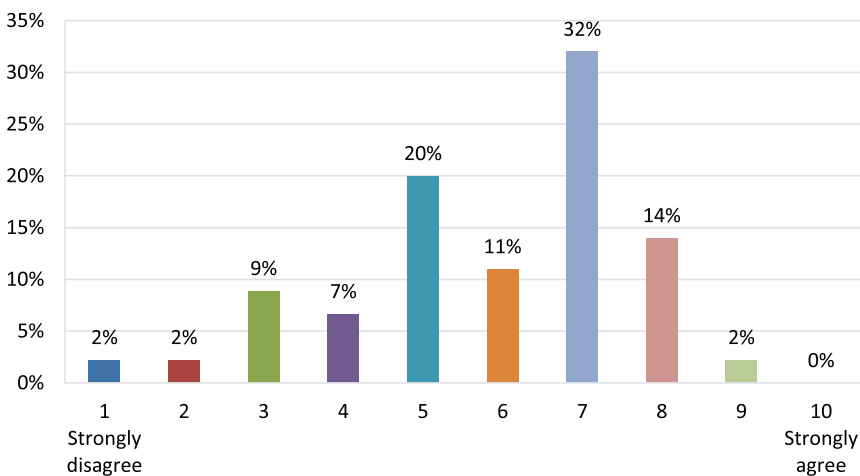

Figure 13: Academicians' response to fashion and textile industry's support to implement sustainable design
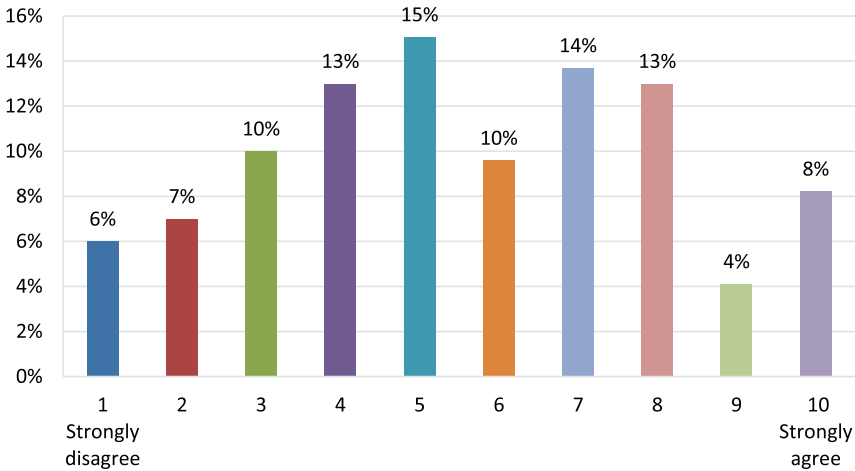
Figure 14: Industry's response to fashion and textile industry's support to implement sustainable design

When asked if India's craft-based fashion and textiles are considered sustainable, 60 percent of educators gave positive responses, 23 percent were neutral, and only 17 percent gave negative responses (Figure 15). It confirms that educators are overall positive about craft practices and consider it a sustainable option. Industry practitioners also viewed craft methods as more sustainable, with 63 percent responding positively (Figure 16). This is quite promising for the Indian fashion and textile scenario, as both industry and educators commend our craft practitioners and affirm that they are employing more sustainable methods of production.
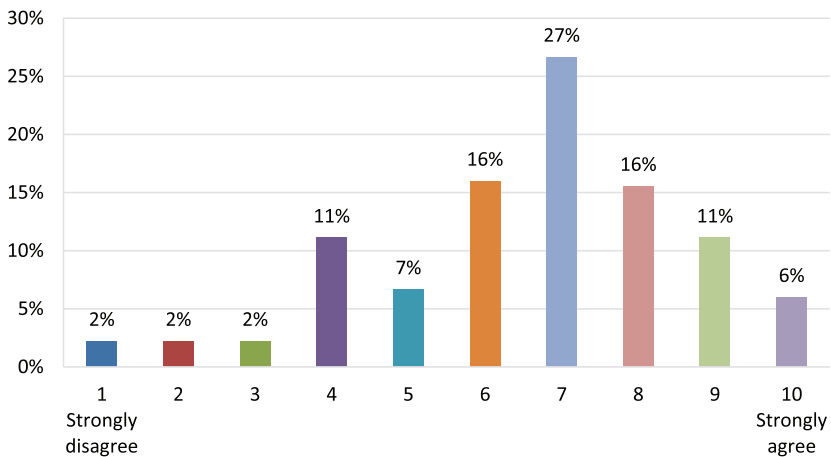

Figure 15: Academicians' response to Indian textile crafts as a sustainable practice
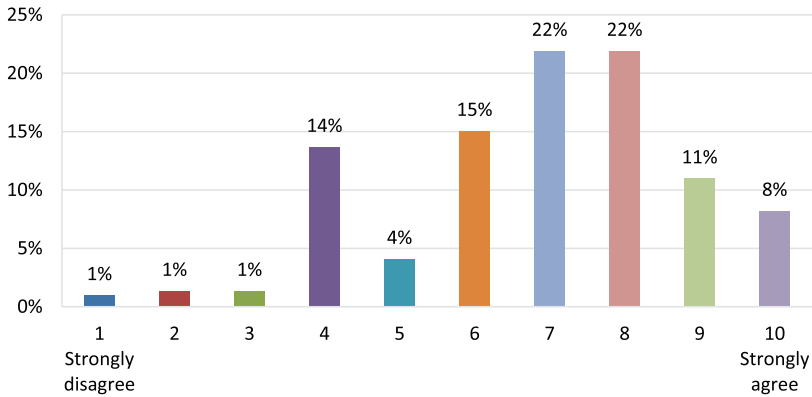
Figure 16: Industry's response to Indian textile crafts as a sustainable practice

Industry practitioners were also asked about the industry's readiness to accept the challenges of sustainable practices. The response was divided, with 31 percent negative responses versus 46 percent positive responses, confirming that the industry is beginning to support sustainability, but more work and awareness are required for its implementation (Figure 17).
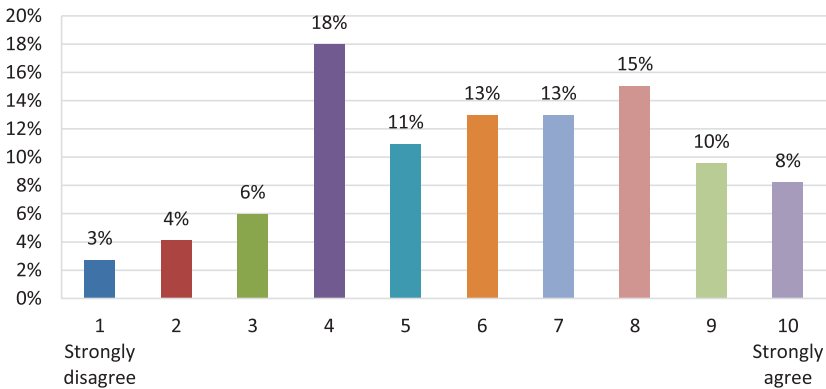
Figure 17: Industry's response to the readiness of the fashion and textile industry to integrate sustainable practices

The educators and industry practitioners were asked if their families are conscious of sustainable consumption of fashion and textile materials. Figure 18 shows that educators indicated a positive response of 50 percent, compared to a negative response of 12 percent and a neutral response of 38 percent, while industry professionals gave a positive response of 62 percent compared to a negative response of 13 percent (Figure 19). The findings indicate the initiation of consumer awareness regarding sustainability, highlighting the need for further efforts to sensitize society.
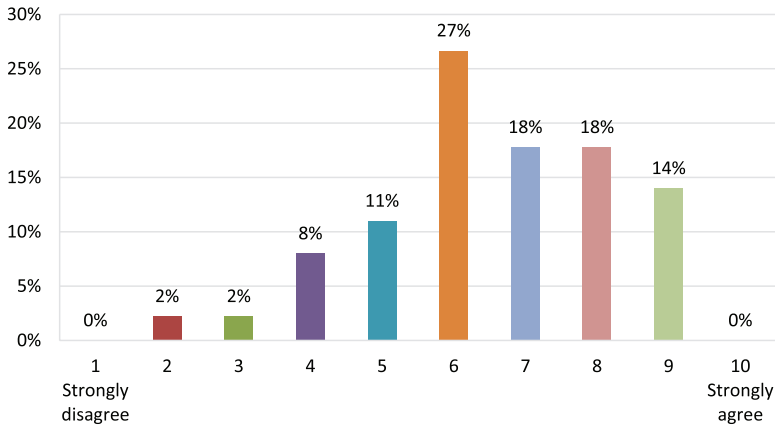
Figure 18: Academicians' response to consciousness about sustainability among family members
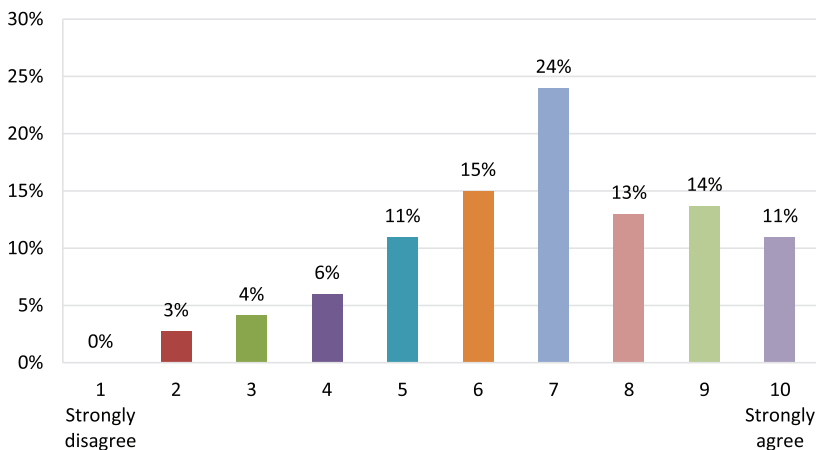
Figure 19: Industry's response to consciousness about sustainability among family members

Lastly, the response from both educators and industry professionals to sustainability being an integral part of all undergraduate fashion and textile education was very positive, with a resounding 'yes.' Figure 20 depicts the word cloud of the responses received for the open-ended question. Many participants hold the belief that experimenting with "integral part" and "specialized course" could lead to improved implementation. Many respondents are also advocating for full-fledged programs on sustainable designs. Some argue that the school curriculum should introduce these concepts at an early age.

Figure 20: Word cloud depicting response regarding integration of sustainability in undergraduate fashion and textile design programs

Qualitative data coding of interview responses

To confirm the survey findings, educators and industry professionals were interviewed, and the responses were analyzed by coding scheme. Through the process of open coding, the data was subjected to a thorough examination, and preliminary codes were assigned (Table 2). The themes identified were Curriculum Design (CD), Teaching Methods (TM), Student Outcomes (SO), Sustainability Practices (SP), and Challenges (CH).

Table 2: Data coding

S.No.	Respondents	Question	Code	Quote
1	Educator 1	Q1	CD	"We have incorporated sustainability into the curriculum by introducing specific courses."
2	Educator 2	Q2	TM	"Case studies are used extensively to teach sustainability."
3	Industry 1	Q4	SP	"Craft practices are more sustainable."
4	Educator 3	Q5	CH	"Finding reliable suppliers for sustainable materials is a big hurdle."
5	Educator 4	Q2	TM	"Workshops and hands-on activities engage students effectively."
6	Industry 2	Q4	SP	"We follow a closed-loop system to minimize waste."
7	Educator 5	Q1	CD	"Sustainability is a key theme across multiple courses."
8	Industry 3	Q5	CH	"Budget constraints limit our ability to source eco-friendly materials."
9	Educator 3	Q3	SO	"Product focus is on using recycled materials."
10	Industry 4	Q3	SP	"I create a zero-waste fashion line."

Table 3 represents axial coding that entailed a mix of inductive and deductive reasoning to establish connections between codes and concepts and rearrange codes into categories and sub-categories. The next step was selective coding (Table 4), which required the careful selection of the core category and its systematic connection to other categories, ensuring the validity of these relationships, and addressing any categories that required additional refinement and development. Selective coding assists in simplifying the data analysis and developing a theoretical framework for data interpretation. Table 5 presents the objective-wise key findings and significant responses from interviews with academicians and industry professionals.

Table 3: Axial data coding

S.No.	Category	Sub-Categories	Codes
1.	Curriculum Design	Course content, modules, master-class, workshop	CD
2.	Teaching Methods	Group projects, field visits, research projects, case studies, co-designing	TM
3.	Student Outcomes	Implementation ability, awareness level, knowledge and skills	SO
4.	Sustainability Practices	Implementation, readiness, solution, craft practices	SP
5.	Challenges	Material availability, trained professionals, cost-effective	CH

Table 4: Selective data coding

S.No.	Core Category	Related Categories	Codes
1	Sustainability Education	Curriculum Design, Teaching Methods	CD, TM
2	Implementation Practices	Student Outcomes, Industry Practices	SO, IP
3	Integration Challenges	Challenges and Opportunities	CH

Table 5: Objective-wise findings and results of interview data

S.No.	Objective	Finding	Evidence
1.	Assessing integration of sustainability in design curriculum	Integration varies across universities.	"Some institutions have dedicated sustainability courses."
2.	Exploring teaching methods	Global case studies are effective	"Research and case studies on sustainability help for better understanding."
		Need for practical exposure, field visit, and co-designing.	"Students benefit from hands-on experiences."

S.No.	Objective	Finding	Evidence
3.	Evaluating student understanding from educators' perspectives	High awareness among students.	"Students show a good understanding of sustainability principles."
		Implementation of sustainable practices in projects.	"Final year projects often reflect sustainable practices."
4.	Investigating industry practices	Mixed perceptions of preparedness.	"Some practitioners feel new graduates are well-prepared, others do not."
		Emphasis on craft-based fashion and textiles.	"Indian handloom and textiles are more sustainable."

Data Analysis

The findings from the survey and interviews with academicians and industry professionals were collated and analyzed. According to educators, many courses now include modules on sustainable materials, ethical production methods, and lifecycle analysis. Educators and practitioners confirm the inclusion of sustainability concepts in the curriculum and awareness among students and young professionals. Integrating sustainability studies varies greatly between universities, as does the level of consistency and breadth of these inclusions. This shows the need for standardized frameworks to make sure that all programs fully cover sustainability principles.

Identifying effective teaching strategies is critical for reinforcing sustainability knowledge. Teachers believe that they can teach sustainability, identifying "group projects on global sustainable practices" and "upcycling, recycling, and deconstruction methods" as the most effective methods. In addition to these research projects, co-designing and field trips are popular strategies for imparting sustainability. These methods promote collaborative learning and offer practical experience in implementing sustainable practices. These approaches collectively support students in comprehending the intricacies of sustainable fashion and foster a mindset of innovation.

According to the survey, educators pointed to the students' ability to apply sustainable production and consumption practices in their projects. However, industry practitioners have given an overall negative response to the application of SDG 12 by young professionals. The findings confirm the need for a robust framework to effectively implement the SDGs. Further, it became evident that the current industry practices are quite diverse in terms of sustainability implementation. Although larger and more established brands and companies are embracing sustainable practices, smaller and

newer enterprises often face challenges due to their limited resources and knowledge. A significant challenge that has been identified is the shortage of sustainable materials and technologies. In addition, the expensive nature of sustainable materials continues to be a major obstacle. To tackle these challenges, policymakers and industry leaders must work together to establish supportive ecosystems.

Society's consciousness for sustainability is improving; numerous opportunities are arising from the growing consumer awareness and demand for sustainable fashion. This shift offers a rare chance for Indian fashion education to lead on a global scale. The goal is to produce graduates with exceptional design skills and a strong commitment to sustainability. By incorporating sustainability into the curriculum and providing real-world experience, students can develop the skills and mindset needed to lead the way in this transformation. Ultimately, the progress of sustainability in Indian fashion and textile education shows promise, but there is a need for more consistent and unified strategies to fully realize its potential. An effective framework for SDGs and collaboration among educational institutions, industry stakeholders, and policymakers are crucial for establishing an environment that fosters sustainable practices. Through careful analysis and strategic action, the Indian fashion and textile sector has the potential to make a substantial impact on global sustainability goals, serving as a model for other industries to emulate.

Discussion

There is a clear understanding among both academics and industry professionals about the negative effects of current fashion and textile practices, as supported by the research. These efforts to mitigate the effects are a positive indication of awareness and action. Many educators have emphasized the successful integration of sustainability principles into design education. Both educators and industry professionals concur that the current curricula contain significant content on sustainability, acknowledging the potential for further enhancements. The consensus suggests a promising path toward integrating sustainability further into fashion and textile education.

India's extensive history in craft-based fashion and textiles offers a distinct chance to advocate for sustainability. Traditional craft textiles are known for their sustainability, as they utilize local materials and techniques that have a minimal environmental impact. Highlighting and advocating for cultural industries can act as a connection between conventional practices and contemporary sustainable fashion. Based on the findings, it is evident that the integration of craft textiles into mainstream fashion has garnered

significant support from the research participants. They believe that this approach can effectively contribute to sustainability efforts and help preserve cultural heritage. This not only promotes the sustenance of crafts and encourages local artisans, but also educates students on the importance of sustainable production methods.

There is a clear disparity in viewpoints between educators and industry practitioners when it comes to the ability of young designers to apply sustainable production and consumption methods to achieve SDG 12. Many educators have a favorable perspective on today's students. On the other hand, industry practitioners have expressed a lower level of confidence in the industry's readiness to embrace these practices. This gap emphasizes the importance of strong framework requirements for achieving SDGs. Academics and industry should maintain constant communication to align industry expectations with the skills of young professionals. Building strong partnerships between academia and industry is essential for fostering collaboration and testing the feasibility of ideas for sustainable production in the industry.

Further investigation is required to establish the optimal approaches for imparting knowledge on sustainability in the fashion and textiles industry. The development of a robust framework for widespread implementation will significantly impact student training. Frameworks should be flexible enough to suit different educational settings and capable of meeting the changing needs of industry. Through the establishment of clear guidelines and best practices, educators can effectively equip students to tackle the complexities of sustainable fashion.

Although consumers are becoming more aware of conscious consumption, there is still a need for greater efforts to educate the public about finding authentic and viable sustainable fashion. Consumers have a significant impact on the demand for sustainable products. Consequently, increasing awareness and offering education on the environmental and social consequences of fashion choices can result in individuals making more informed and responsible consumption decisions. Initiatives such as public awareness campaigns, workshops, and collaborations with influencers can amplify efforts.

All the respondents agree that incorporating sustainability into undergraduate fashion education is crucial. It became clear that offering specialized courses focused on sustainability, in addition to integrating it into the core curriculum, would improve outcomes. Educational institutions should consistently evaluate and enhance their curricula by incorporating a broader range of sustainability topics. This involves incorporating practical projects, global research assignments, and co-designing with

artisans and industry professionals. By adopting this approach, students can develop a comprehensive grasp of sustainable practices.

Conclusion

The findings highlight the inclusion of sustainability in fashion education and underscore the need for continued collaboration between educators and industry professionals. The research underscores the encouraging movement toward incorporating sustainability into fashion and textile education. Overall awareness about sustainability among students, young professionals, and society is encouraging, especially in terms of aligning educational outcomes with industry readiness. Despite the challenges, a standardized framework is essential to enable students and young professionals to implement and practice sustainable production and consumption (SDG 12) in the fashion and textile industries. By implementing an educational framework, keeping traditional crafts as an important theme, and providing hands-on experiences with sustainable projects, substantial progress can be made toward sustainability and achieving the SDG by 2030. With a blend of traditional wisdom and effective education for future generations, India can lead the way in the worldwide sustainable fashion movement.

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Nandini Lal is a part-time doctoral scholar and full-time Associate Professor at Pearl Academy, New Delhi, with a diverse 21 years of experience in industry and teaching. She ardently believes design has transformative potential and is a universal problem-solving tool. Her early stints at Arvind Mills, Shivalik Printing Limited, and ILFS Cluster Development Initiative endowed her with deep insights into the fashion, textile, and craft sectors. Driven by an unwavering desire for knowledge and personal development, Nandini transitioned from the corporate world to the academic realm at Pearl Academy. Throughout her tenure, she has nurtured a profound passion for sustainable fashion, recognizing the urgent need for sustainability in the industry. She firmly believes that infusing sustainability into fashion education will groom a new breed of professionals primed to address diverse challenges. Nandini envisions an educational landscape that molds future change leaders, making sustainable practices intrinsic to the fashion realm.

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