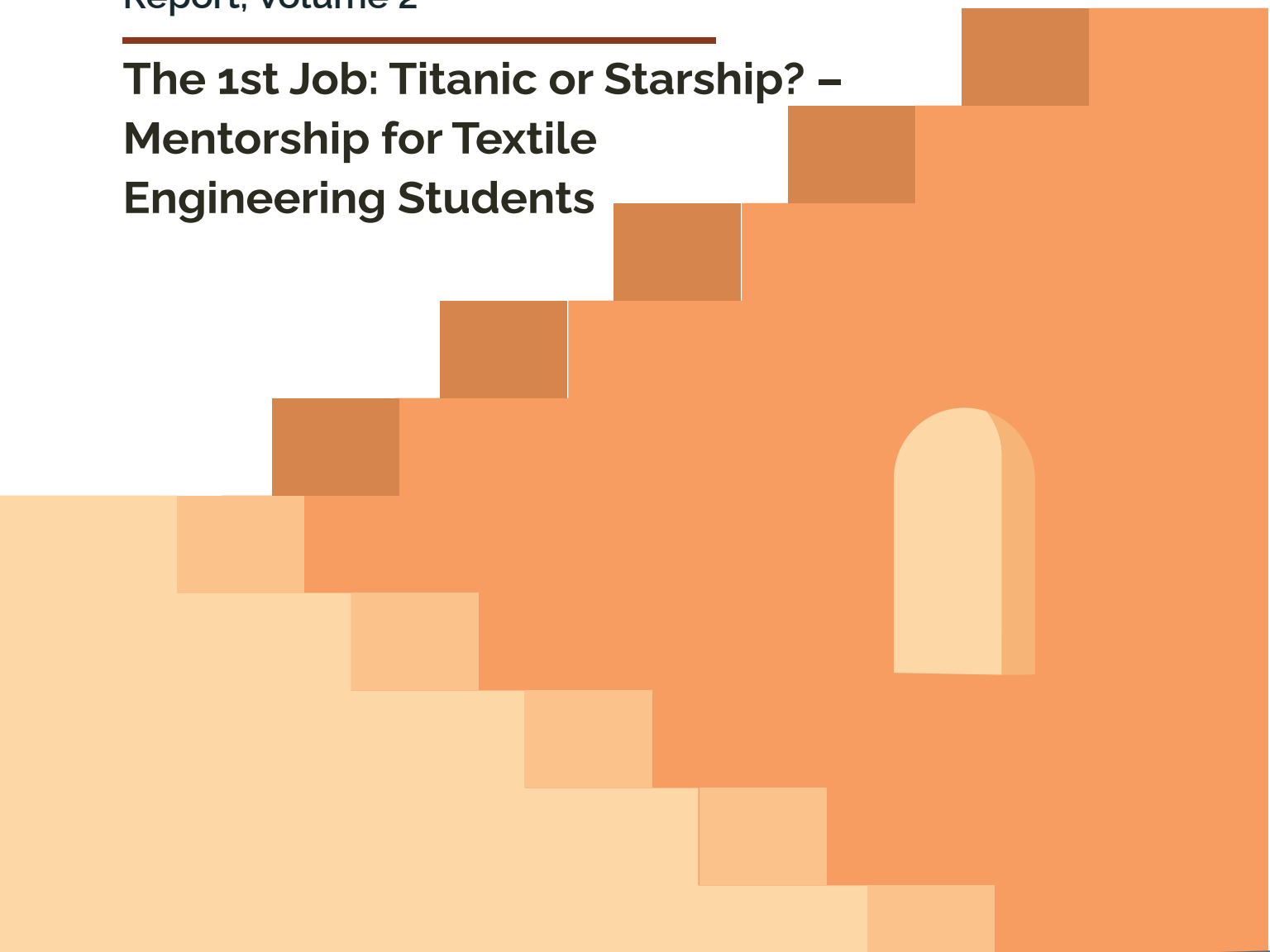


HELD Academia-Industry Nexus Report, Volume 2

The 1st Job: Titanic or Starship? – Mentorship for Textile Engineering Students



PROJECT

Higher Education and Leadership Development for Sustainable Textiles in Bangladesh (HELD)

IMPLEMENTED BY

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

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PREFACE

As part of the project Higher Education and Leadership Development for Sustainable Textiles in Bangladesh (HELD), implemented by GIZ, we emphasized fostering meaningful dialogue between the education sector and private industry on sustainability within the textile and education spheres. At the core of this initiative is the Academia-Industry Nexus, which focuses on strengthening collaboration between academic institutions and industry stakeholders.

This initiative is brought to life through a structured cooperation network that brings together representatives from higher education, vocational training institutions, government bodies and the textile industry. As part of these efforts, we have organized multiple events addressing contemporary issues related to higher/vocational education and industrial growth. The insights and discussions from these events are compiled as a series of report volumes.

This report has been prepared by Reed Consultancy Bangladesh (RCB) and published by GIZ Bangladesh. We extend our sincere gratitude to RCB, the speakers, participants, and panelists for their invaluable contributions to this publication.

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ABBREVIATIONS

AUST	Ahsanullah University of Science and Technology
BIM	Bangladesh Technical Education Board
BUTEX	Bangladesh University of Textiles
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HELD	Higher Education and Leadership Development for Sustainable Textiles in Bangladesh
HRM	Human Resource Management
SHED	Society for Health Extension and Development
TUD	Technische Universität Dresden
US	United States

1. INTRODUCTION

Bangladesh has emerged as an important contender in the international textile market, ranking second only to China in garment exports. In Bangladesh, textile engineers have been an integral part to the textile industry. Textile engineers are specialists in the field of textiles and material engineering who encompass the entire textile production chain, from design to the development of textile materials, processes, and products.¹ By graduating with the adequate skills and competencies needed for an efficient workforce, textile engineering students are strengthening the economic backbone of the country. With the increasing demand for textiles worldwide, there is a growing need for mentoring textile engineering students to become qualified professionals who can address complex challenges in the industry. Effective mentorship can significantly help textile engineering students to be included in the workforce with increased productivity and engagement, positively influence employee retention, and improve diversity and inclusion by guiding professional and personal development.

Effective mentorship can significantly help textile engineering students to be included in the workforce with increased productivity and engagement, positively influence employee retention, and improve diversity and inclusion by guiding professional and personal development.

This report is based on insights gathered from a network as part of the work under Output 4 (Academia-Industry Nexus) of the bilateral project "Higher Education and Leadership Development for Sustainable Textiles in Bangladesh (HELD)", to strengthen the application-oriented competencies of future specialists and managers in the textile industry and related sectors in Bangladesh.

¹ <https://www.edmates.com/career-guide/textile-engineer/>



2. METHODOLOGY

The report has been prepared based on the findings of the network session on the mentorship of textile engineering students of Bangladesh and a literature review of existing reports, publications, websites, and other publicly available resources of related organizations. This report represents a sententious reflection of the factors behind the mentorship of textile engineering students in Bangladesh. In this regard, a network session on mentorship, namely 'Academia-Industry Nexus Session on Mentorship of textile engineering students of Bangladesh' was held on 07 October 2023 in Gazipur, Bangladesh., enhancing the mentorship of the country's textile engineering students. With 15 participants, the network session was a combination of a presentation on a support program for design graduates, group mind mappings on the mentorship status quo and ideas for a mentorship programme.

15 participants from different sectors participated in the event representing Bangladesh Technical Education Board, Bangladesh University of Textiles, Ahsanullah University of Science and Technology, Technische Universitat Dresden, Society for Health Extension and Development, ICON Institut, Team Group, Crown Wear Pvt Ltd., Design In Global, Nitex Solutions Ltd, Metro Knitting & Dyeing Mills Ltd. and GIZ

3 BACKGROUND STUDY

The textile and apparel industry currently generates the highest export revenue for Bangladesh, with a share of 84.58% of export revenue in 2022-23.² Along with the textile industry's growth, it has been found that undergraduate degrees for textile engineering have also been proliferated over the last 20 years. Bangladesh University of Textiles published their '1st 10 year Strategic Plan from 2023-2032' in 2022, and it is estimated that 9000 textile engineering students from public textile universities, colleges, and institutes graduate and enter the workforce of the textile industry of Bangladesh each year. As a result, these graduates have met the demands of the job market, but it also resulted in frustration from both the students and industry, as their aspirations and skills were not supposedly met.

It is estimated that 9000 textile engineering students from public textile universities, colleges, and institutes graduate and enter the workforce of the textile industry of Bangladesh each year.

Mentorship is an important influencing factor of development for an individual, which, when driven in the right direction, could help to reduce the gap between aspirations and skills. A study (2020) by the Indian Institute of Technology, Jodhpur, on a mentoring program designed for engineering students, where 15 mentors and 120 mentees participated, stated that mentorship is beneficial for self-development and improving communication skills. In contrast, the mentees considered that the program helped them academically and emotionally. Similarly, another study on mentoring support in Bangladeshi organizations suggests that mentoring is associated with the instrumental and psycho-social career benefits of the mentee and is a vital human resource management (HRM) tool for talent development and career outcomes-driven approach.³ Proper mentorship encourages and enables the professional or personal development of the mentees by staying focused on their ultimate goals.⁴ This report, thus, has rigorously looked into mentorship from the lens of students, including textile engineering students, and the dimension of mentorship that can help the students.

3.1 CONCEPT OF MENTORSHIP

Mentorship is an evidence-based social support strategy that is effective in increasing individual achievement in skills and competencies and the personal and social

² https://www.bgmea.com.bd/page/Export_Performance

³ <https://journals.aom.org/doi/abs/10.5465/AMPROC.2023.1828gabstract>

⁴ <https://ucbbd.org/how-mentorship-shapes-students-career-path/>

⁵ MacCallum, Judith, and Susan Beltman. "Bridges and barriers in Australia's youth mentoring programs." *Global perspective on mentoring: Transforming contexts, communities, and cultures* (2003): 73-103.

development of people in various settings.⁵ Mentorship processes can be formatted as formal or informal, where formal mentoring is usually process-focused with well-defined objectives, and informal mentoring is performed through sporadic, voluntary meetings and training activities without planning or evaluation with a focus on personnel.⁶

In a review paper, the authors analysed the literature on mentorship of college students between 1990 and 2007 and attempted to re-frame and update the definition and characteristics of mentoring as there was increasing national support for mentoring programs and initiatives in higher education in the US.⁷ In that paper, the author articulated the types and functions of mentorship needed for university students. Based on the output of that study, this report has looked into the types and functions of mentorship.

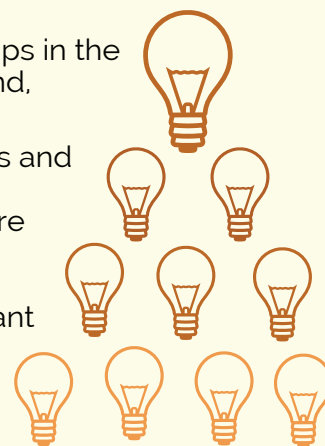
3.2 TYPES OF MENTORSHIP

There can be five types of naturally occurring mentoring relationships in the youth population: classic mentoring, individual-team, friend-to-friend, peer-group, and long-term relationships with “risk-taking” adults.

In **classic mentoring**, a more experienced adult (the mentor) guides and supports a younger person (the mentee) in a close, personalized relationship modelled after the classic apprenticeship system, where the students learn by watching, practising, and receiving direct feedback from the mentor.⁸ With an emphasis on practical learning and knowledge application, this kind of mentoring places a significant emphasis on the development and evolution of the individual by sharing the knowledge, expertise, and skills of the mentor with the students directly.

In **individual-team mentoring**, a group of students looks to an individual or a small number of individuals for support where the mentor(s) is/are described as having both respect and understanding of the students and the mentor(s) being not necessarily much older than the group members but may be recognized as having valid previous experience¹³.

Friend-to-friend mentoring is a type of mentoring where individuals with a pre-existing friendship relationship take on mentor and student roles, which can happen organically or be supported by an organized program that strengthens friendships via common objectives and mutual understanding of one another's struggles and aspirations while accommodating individual requirements.⁹



⁶ <https://www.europeanproceedings.com/article/10.15405/epsbs.2021.03.02.18>

⁷ [https://onlinelibrary.wiley.com/doi/abs/10.1002/1099-1298\(200005/06\)10:3%3C211::AID-CASP569%3E3.0.CO;2-S](https://onlinelibrary.wiley.com/doi/abs/10.1002/1099-1298(200005/06)10:3%3C211::AID-CASP569%3E3.0.CO;2-S)

⁸ https://nova.newcastle.edu.au/vital/access/manager/Repository/uon:19762?exact=sm_creator%3A%22Chan%2C+Lai+Kwan+Josephine%22&ort=sort_ss_title%2F

⁹ <https://www.tandfonline.com/doi/abs/10.1080/02615479.2022.2057465>

Peer group mentoring examines the focus on students participating in mentorship and potential differences in the experiences, addressing the results of the mentorship about the professional, personal, and social dimensions of development.¹⁰

'Risk-taking' adults giving long-term relationship coaching is a mentoring approach that bears many similarities to "classic mentoring," but it differs in that it frequently involves a young person and a mentor who have a history of rebellion and authority-challenging.¹³

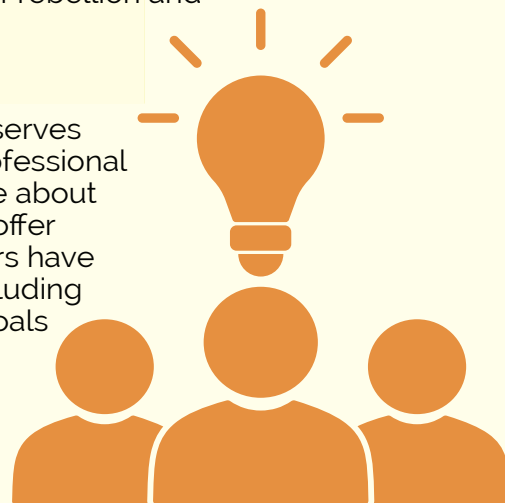
3.3 FUNCTIONS OF MENTORSHIP

There are four general functions of a mentor: a friend who serves an interpersonal function, a career guide who promotes professional insight, an information source who provides practical advice about academic expectations, and an intellectual guide who can offer constructive criticism about empirical pursuits.¹¹ Researchers have identified and validated four basic mentorship domains, including psychological and emotional support, support for setting goals and choosing a career path, academic subject knowledge support and specification of a role model.¹²

Psychological and emotional support entails listening to the mentor by the students to discover issues that need to be addressed to develop a supportive relationship based on mutual understanding and linkage between the mentor and students.¹³

The core tenet of mentorship support for **setting goals and choosing a career path** involves evaluating a student's strengths, limitations, and skills and helping them develop academic and career goals by supporting goal-setting and career path choosing.¹³ The greater the similarity between the mentor and students, the greater the likelihood of providing goal orientation and career development.¹³ This feature can support recent graduates transitioning from university to professional life by connecting mentors from the industry with students from universities, improving their chances of meeting young professionals, and learning about professional enrolment opportunities, especially for female students.

Academic subject knowledge support provides students access to a mentor who will help them succeed inside and outside the classroom to expand their knowledge in the relevant field, actively nominating the students for promotions, and taking credit and blame when required.¹⁴



¹⁰ <https://www.tandfonline.com/doi/abs/10.1080/02619768.2014.983068>

¹¹ <https://www.tandfonline.com/doi/pdf/10.1080/00221546.1991.11774114>

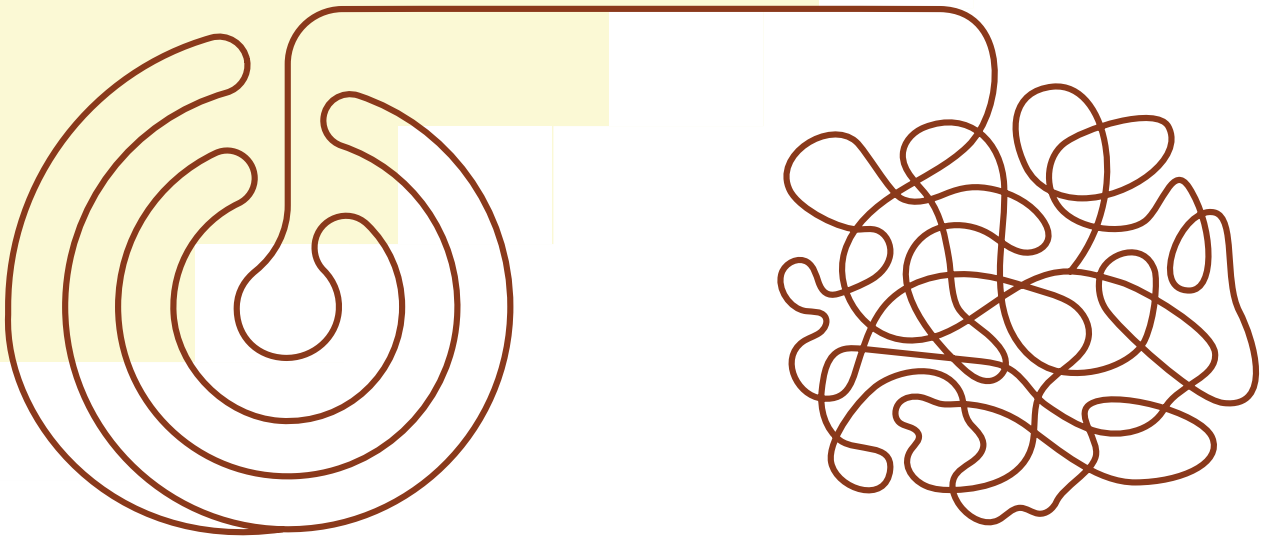
¹² <https://journals.sagepub.com/doi/abs/10.2190/CS.9.3.e>

¹³ <https://www.sciencedirect.com/science/article/abs/pii/S0001879102000386>

¹⁴ <https://psycnet.apa.org/record/1988-97625-000>

The **specification of a role model** focuses on the student's capacity to draw lessons from the mentor's past and present actions and focuses on the successes and setbacks of the mentor.¹⁵ In this dimension, the mentor places emphasis on sharing or self-disclosing life experiences and feelings to personalize and enrich the relationship between himself/herself and the students.¹⁶

Teachers, industry experts, peers, and alumni can mentor textile engineering students of Bangladesh. At some universities, faculties mentor students majoring in their respective disciplines as an extension of their advising duties, making the faculty-student relationship comprised of concise support beyond typical coursework.¹⁷ Mentoring industry experts during internship/academic life can prepare textile engineering students for the upcoming education-job transition. Alumni or seniors can play a crucial role in the academic and professional steps of textile engineering students by sharing their experiences, knowledge, and skillsets. Since the mentoring relationship involves a more knowledgeable person with a younger, less experienced person, peers can also provide useful mentoring support.¹⁸ Grant-Vallone and Ensher (2000) studied the effects of a graduate student peer-mentoring program, showing that a peer mentoring program provides students with an increased level of psycho-social and instrumental support.¹⁹



4 WORKSHOP FINDINGS

4.1 PRESENTATION ON MENTORSHIP OPPORTUNITIES

In the presentation on a support program for design graduates, the young designer and entrepreneur Rokaiya Ahmed Purna talked about opportunities in fashion design for fresh graduates. She concentrated on her own project, "Design in Global," an initiative that seeks to support young artists globally and helps to solve the world's most pressing issues through social entrepreneurship, research, innovation, and collaboration within the design and creative industry. She specifically shared the draft of a program supporting recent design graduates in the transition from university to professional life, which worked as an example of a mentorship program where mentors from the industry are connected with students from universities.



Theresa Falter, PhD student at Technical University Dresden, presenting the findings of the WHY group

4.2 GROUP WORK ON MENTORSHIP STATUS QUO

In the group mind mapping on the mentorship status quo, before delving deeply into the conceptualization stage, the participants discussed at their tables about mentorship programs at Bangladeshi textile colleges and diploma institutes aligned with the industry. This mind mapping revealed insufficient connections between students and the industry, inadequate mentorship approaches to facilitate the transition into the workplace,

particularly for female students who are underrepresented at textile universities/ colleges, and even more in managing textile factories.

4.3 GROUP WORK ON MENTORSHIP PROGRAMME

In the group work on the mentorship program, three groups were formed based on why it is necessary, what should be done as a part of the mentorship program, how it should be done, and who should be involved in the programme. The main findings of group mind mappings on mentorship for textile engineering students are the following

4.3.1 FINDINGS OF THE WHY GROUP:

The mentorship program's purpose was focused on by the WHY group from the viewpoints of academia and business. According to the WHY group, mentorship helps textile engineering students to learn and get motivated about job opportunities/ networking. Mentorship helps in promoting the respective companies hunting for skilled employees and fostering the diversity and equality of the organization. These results provided the base for the conversation of the other two groups.

4.3.2 FINDINGS OF THE WHAT/HOW GROUP:

As a starting step, the WHAT/HOW group suggested hiring professional counsellors for the academic institutions as this is crucial particularly for female students, to improve their chances of meeting young professionals and learning about professional enrolment opportunities. According to the WHAT/HOW group, online discussions with professionals can help provide information, professional troubleshooting and showcasing motivational



Pramita Dutta Arpa, Senior Officer, Dyeing Lab, Metro Knitting and Dyeing Mills Ltd., presenting the findings of the WHAT/HOW group



Tanja Strukelj, research assistant at Technical University Dresden, presenting the findings of the WHO group

success stories, especially industrial mentorship in the internship period can help the students deal with difficult situations on the professional level and get insights into the industry. The group also stated that career fairs held by academic institutions can help increase job opportunities. The group also emphasized family support for female graduates to advance in their careers.

4.3.3 FINDING OF THE WHO GROUP:

The WHO group concentrated on how business and academia may mentor female university students by collaboration among academic members, student counsellors, industry experts, and university alumni as mentors. The group highlighted the importance of connecting alumni of mentorship programs, international collaboration and partnerships among universities, and the involvement of government institutions and the industry in the selection processes. Additionally, this group discussed potential ways to link the stakeholders to promote relevant issues and involve more female leaders to develop role models. The group also discussed the necessity of more platforms and portals to share innovative concepts and insights for achieving the goals mentioned above.

5 RECOMMENDATIONS

Mentorship is crucial for textile engineering students in Bangladesh, as it provides industry insight, career development, skill enhancement, networking opportunities, confidence building, and emotional support. It helps students navigate academic pressures and career uncertainties, bridging the gap between theory and practice, and guiding them in exploring various career paths within the textile sector. Mentorship has many facets, and the right kind of approach will immensely benefit students by identifying mentorship program objectives: Clear mentorship objectives can act as career guidance to help students explore various career paths in the textile industry focusing on both technical skills (e.g., textile production, merchandising) and soft skills (e.g., communication, teamwork), with potential to make mentorship of the textile engineering students of Bangladesh more effective and productive.

Structuring result-oriented mentorship programs: Structuring a result-oriented mentorship program for textile engineering students in Bangladesh involves clear planning, goal-setting, and continuous evaluation incorporated with industries, academia, and alumni networks.

Implementing a Feedback Loop: Regular surveys can be conducted for both mentors and students to assess the effectiveness of interactions and identify areas for improvement. A system of progress monitoring can be done by checklists or milestone assessments to evaluate students' skill development and career clarity through mentorship initiatives.

Training of Mentors: Training the mentors through online and offline sessions, seminars, and courses can enlighten them to connect and assist the students more efficiently. These trainings can consist of a series of training modules that can be delivered through online and offline formats, focusing on guidelines on effective mentoring, tools for tracking students' progress and resources for industry research and trends.

System of Mentor Recognition: There can be a system of recognition (certification/designation) for mentors to be considered qualified for a specific type(s) of mentorship. Certification levels can be segmented as Basic Mentor Certification (mentors with limited experience), Intermediate Mentor Certification (mentors with moderate experience) and Advanced Mentor Certification (Highly experienced mentors). Formal certificates or digital badges can be issued upon successful completion of certification requirements, which mentors can display on personal/professional profiles (e.g., LinkedIn, facebook), followed by continuous assessments (e.g., every 2-3 years) to maintain their certification. Also, mentors can be allowed to use specific designations (e.g., Certified Mentor, Advanced Mentor) to enhance their professional credibility.

Pairing students and mentors: Pairing students and mentors effectively by considering students' career inspiration and specific areas of interest (e.g., merchandising, production, consultancy) for the mentorship and identifying mentors' areas of expertise, industry experience, and preferred mentoring style, are crucial for the success of a mentorship program. The matching procedure can be done by software or online platforms that can analyze the data collected and suggest potential matches based on predefined criteria or by a committee of program coordinators which can manually review the profiles of the students and mentors.

6 CONCLUSION

The mentorship landscape for textile engineering students in Bangladesh is evolving and there is a great opportunity for it to get better. Mentorship can be extremely important in preparing students for a career in the textile industry by promoting industry-academia collaboration, utilizing technology, and emphasizing practical skills. The network session emphasized how crucial it is to have a structured and collaborative mentorship program that covers both professional and academic facets to empower and mentor textile engineering students, especially female textile engineering students. The ultimate goal of this program is to create a more vibrant and varied workforce in textile engineering by promoting knowledge transfer, skill enhancement, and career development.

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