

Sweta Patnaik, 2021

Volume 5 Issue 1, pp. 73-84

Date of Publication: 05th April 2021

DOI- <https://doi.org/10.20319/pijtel.2021.51.7384>

This paper can be cited as: Patnaik, S. (2021). Exploring Students' Perceptions of Sustainability as Part of Their Clothing and Textile Curriculum. PUPIL: International Journal of Teaching, Education and Learning, 5(1), 73-84.

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EXPLORING STUDENTS' PERCEPTIONS OF SUSTAINABILITY AS PART OF THEIR CLOTHING AND TEXTILE CURRICULUM

Sweta Patnaik

*Department of Clothing and Textile Technology, Cape Peninsula University of Technology,
Cape Town, South Africa*
patnaiks@cput.ac.za

Abstract

Sustainability has been a determining factor for individuals because of various reasons for decades, be it climate change, and environmental pollution. Clothing has been a need for us and is now part of everyday life either in the form of fashion, seasonal wear, trend, and the like. The analysis revolved around students' responses to questions following the inclusion of sustainability within the curriculum as part of an engineering curriculum. The results show that "Sustainability" - a new term/concept being included within the clothing and textile curriculum at the advanced diploma stage. Therefore, it is essential to create awareness and let the students know regarding sustainability by including it in the curriculum. This paper highlights the inclusion of sustainability within the Advanced Diploma qualification of the clothing and textile curriculum. This paper reflects the need for curriculum development by assimilating sustainable elements in the above-mentioned qualification, so that upcoming professionals can embody sustainability to create an environmentally friendly and sustainable society to live in.

Keywords

Sustainability, Curriculum, Clothing, and Textile, Higher Education, Advanced Diploma

1. Introduction

Sustainability is a pressing matter within the clothing and textile industry when it comes to our future. Previously, four dimensions of sustainability came into the interrelated picture: individual or human factor, equality in society, industrial development, and safety in the environment (Goodland, 2002; Brooks et.al. 2012). The United Nations Agenda 2030 for sustainable development lays out the global and local challenges that mankind is facing, keeping in mind the need for transformation in the field of sustainability (UNESCO, 2017). Chowdhury (2013) argued that sustainability in itself should be an independent research topic, as it formulates an important segment of any creativity and innovation. Clothing is a basic need to impact human beings and the society they live in.

Organizations and/or companies are now starting to accept that sustainability leads to not only be cost-effective, rather towards long-term continued prosperity. Therefore, sustainability has turned into significant criteria to achieve when it comes to clothing and textiles. Traditional businesses have always been about sales and maximizing profit to satisfy consumers' needs. Technological developments led to increased consumption levels. According to Baier (2020), this kind of occurrence is evident within the apparel industry: the production of outcomes is being created by using similar materials and machinery which have moved to third-world countries.

Off late the trait and cost of products seem to be diminished, therefore, the lifespan of end products has condensed. This is what is fast fashion, i.e., clothing and textile products are produced with a reduced lead time to get finished products faster from the manufacturer to consumers (Nagurney and Yu, 2012). This means subsequent unuse, instinct buying, and eventually, uncurbed usage of raw materials (Achabou, 2013). Such fast fashion patterns lead to environmental thrust by having a detrimental effect on water, soil, and air (Goworek et. al., 2018), and bringing out a high amount of apparel waste. The study is focused on the need for inclusion of sustainability within the engineering curriculum which will not only add to knowledge building but also awareness and smart ways of usage of clothing.

This paper will report on students' responses to questions surrounding sustainability, their buying patterns, functionalities, the impact of sustainability after COVID-19, and what to include in content/ module development from their perspective.

2. Literature Review

Higher education institutions play a vital role when it comes to preparing the youth to create awareness of this topic. Shapiro (2009) noticed institutions play different roles in society: firstly, serving the society and secondly challenging the community to fabricate a brighter tomorrow. Learning is necessary for advancing the various kinds of key efficient competencies for sustainability, which will result in sustainable development (SD) to lead a better life for all (Rieckmann, 2017). Institutions need to integrate SD as part of their educational programs to communicate with future professionals' responsibility towards building a sustainable society (Chowdhury and Koya, 2017; Nolin, 2010). Yet, there is very little mention or incorporation of the concept of sustainability within the modules. Most higher education institutions majorly focus on making their surrounding campus green instead of amalgamating and incorporating sustainability into the existing syllabus (Lengthorn, 2018).

Researchers observed sustainability to be belittled in the curriculum (Glasser and Hirsh, 2016). Incorporation of environmental and social attitudes within the curriculum of our future graduates has become critical (Torre et. al., 2017), also known as “sustainable curricula” (Miguel, et. al., 2020). Attempts to ameliorate the engineering syllabus to bring in SD have been mainly targeted on upgrading and uplifting lone qualifications on sustainability (Lazzarini et. al., 2018), instead of integrating sustainability theories and ideas into a current qualification within the curriculum. Therefore, it justifies the importance of incorporating sustainability into the university curriculum. There is no such clear record of craved proficiency or expertise or learning outcomes within the engineering syllabus for SD (Von Blotnitz, 2015). Many research papers have observed major opposition in the inclusion of sustainability in higher education institutions in the field of teaching (Lazzarini et. al., 2018; Mulder et. al., 2012; Buckler and Creech, 2014; Wals, 2014). Several studies (De Haan, 2010; Sleurs, 2008; Roorda, 2010) have addressed essential competencies in sustainability in the form of various settings and features (Lambrechts et. al., 2013). Barth et al. (2007) analyzed the implications of new ways for both formal and informal learning settings for developing key competencies in sustainability within higher education with particular attention given to interdisciplinarity and students' self-responsibility. Many researchers reiterate that the curriculum must incorporate a good number of courses where sustainability competencies are submerged and are compulsory (Rathje et. al., 2008; Buckler and Creech, 2014; De Wit and Leask, 2017; Moreso and Casadesus, 2017).

There is a constant compulsion to consolidate sustenance within the modules and syllabus in numerous ways. According to Armstrong and Le Hew (2014), how the clothing and textile educators are implementing such a goal doesn't look strategic nor coordinated. The approaches towards adopting sustainable practices are diverse which majorly emphasizes the environment in the form of reduction, efficiency, waste management, reuse of goods, or through a surge in the form of durability and longevity of clothing and textile products. Other techniques bring in creative ways which will need the higher education institution's modules and syllabus to initially mark and conform postulation of clothing as new, novel, and development which needs to be part of the coursework.

2.1 Professional Viewpoint of the User

The concept of what we say as a successful sustainably designed product is socially ingrained. Gambini (2006) has further analyzed to understand people's knowledge about sustainability. She also adds that the concept and theory of sustainability can't be realized without thorough deliberation of the societal value system. Therefore, when it comes to design, develop and/ or manufacture relevant sustainable clothing, designers need to know their views and understand their target market's needs – i.e., economic, political, social, and cultural background when it comes to sustainability. Also, to consider are the culture of the buyer on how to resolve sustainability-related issues that involve the buyer's perspective and how it impacts their design ideas or creativity (Berk, 2013).

2.2 Life Cycle and Sustainability of Clothing and Textile

Despite the influence of textile and clothing and its gravity when it comes to culture, the clothing and textile industry is full of an anomaly as it prevails to the business and the consumer's perimeter (Black, 2008; Black, 2013). A major difference will be the textile and clothing sector being highly polluted in the world (Muthu, 2014). Such a fact is augmented that clothing and textile materials are deliberately brought into use every single day either in the form of making it or using it as an end product. Behind the glamorous world of fashion, as well as a more functional clothing item, other aspects need to be kept in mind like the utilization of toxins in the form of dyes, excessive usage of water and power consumption, emission of huge amounts of organic and gaseous wastes. (Muthu, 2014).



Figure 1: *Clothing Life Cycle (Muthu, 2014)*

Muthu through Figure 1 shows the various environmental aftermaths throughout the product life cycle of the product, the systematic scientific approach of the life cycle. This is how each product undergoes the cycle of purchase, consume and lastly either dispose or reuse it.

3. Research Objectives

The objective behind the research paper was to recognize engineering students' apprehension of sustainability not just as a white-collared worker but also as a user and buyer.

4. Methodology

The sampling of this study is from a new qualification named "Advanced Diploma in Clothing and Textile Technology" that was run from this year with the student's age group ranging between 21-25. There was a total of around 13 students. The study was a combination of qualitative and quantitative where the questionnaires were a mix of subjective and quantifiable questions. It comprises optional, closed, and explanatory type questions covering a grading range from 1 which strongly disagree to 5 which stands for strongly agreed. This makes the research measurable, it evaluates the quality of the research, its techniques, or test

measures that were adopted. Questions were asked around demographics and sustainable clothing purchasing behaviour. Feedback received was kept anonymous during the research, so that their identity remains hidden.

5. Results and Discussion

The research asked students various facets of their knowledge on sustainability within the field of clothing and. Being a new qualification, the research was carried out to gain feedback from the Advanced Diploma qualification students on their viewpoint of sustainability and the importance of including it into the teaching module as a subject on sustainability within the specified field in the engineering qualification. The student feedback was investigated and explored using frequency distribution and categorized into five segments (1) Sustainability concept, (2) Buying patterns, (3) Functionalities (4) Impact of sustainability after COVID-19, and (5) What to consider in the inclusion of content/ module development?

The responses below are accompanied by questions as asked to the Advanced Diploma qualification students. The questions posed are more or less alike to the ones asked the undergrad students for similar research on stakeholders and clothing and textile sector professional's understanding and knowledge on sustainability (Patnaik and Pandarum, 2020).

5.1 Sustainability Concept

The students when asked to respond on their understanding of sustainability shows that no two responses were similar and that they worded general words such as, "environment", "re-using", "sustainable", "recycling", "eco-friendly and useful" 1 of them answered with "environment pollution", "waste management" life-long", "benefit to the society". came up. The answers reflect that students know and acknowledge the concept "sustainability".

5.2 Buying Patterns

The students were given questions that were put under two subject matters "*If on purchasing clothing from the stores, will they look that a clothing item carries a tag that says it has been manufactured by the usage of natural products like cotton, wool, linen, and also if there is the bio-label tag on it?*" Students that said "Yes" responded "not environmentally harmful", those who answered "Maybe" responded with "inexpensive" and "safe to the environment products are pricey". This shows that students are aware of conscious buyers and understand their buying patterns.

5.3 Functionalities

The students were given with options, chose “national government”, whilst few of them picked all the options, which is the company, the producer, customer, and organizations like NGOs when they tried answering this *“To whom do we consider responsible in making sure that the eco-friendly manufacturing method is applied in the industry?”* This means that the students feel that the administration or authority of the country should take a long-lasting drive when it comes to the clothing and textile sector by creating awareness.

5.3.1. Responsibilities

Under this category, the students replied to four sub-questions viz.

5.3.1.1 *“In the product stage, choose an option listed below of which section is responsible for this activity mentioned above”*. One third opted “making sure they opt for an efficient and economical blueprint when it comes to the raw items, the other half chose “Manufactures”, while very few of the students choose “the retailers”, whilst the remaining of the students chose “the designers”. This shows students require a clear knowledge of sustainability in the clothing and textiles field.

5.3.1.2 *“In the product stage, choose an option listed below, of which section is responsible for this activity mentioned”*

Almost half the students felt “Creators/ Innovators”, “Producers” and “Retailers” were answerable for applying eco-friendly manufacturing during the product stage. 13.3% answered the Manufacturer. The remaining said the Designer who is responsible.

5.3.1.3 *“Choose one concept listed below that best describes what you understand about cleaner production in the services stage.”*

Students got three options to pick, out of which around three fourth of the responses received agreed to all three of them, whereas less than one fifth agreed on “bringing in a safe environmental concept when it comes to creating the services” the remaining selected “implementing an environmentally safe concept towards service delivery”.

5.3.1.4 *“In your own words, list some of the benefits of applying sustainable product principles in the processing, production, and services to you, i.e. the customer.”* Most students said “current environment” and “Life of products, and sustainable surrounding and the buyer who will be responsible to recycle instead of disposing old ones,” some said “Safe environment and harmless to wear products”, others such as “Demand for environmentally friendly items, making it more reachable and budget-friendly for buyers” also “Reducing carbon emissions as much as possible develop a place where more and more organizations behave responsibly and

minimize fabric or clothing decay.” In conclusion, it can be said, students relate sustainability to environmental safety.

5.4. Impact of Sustainability Post Pandemic

In response to the query “*What are your thoughts about the effect of the pandemic on the sustainability aspect in the clothing and textile sector?*” the responses are as follows:

“COVID made everyone work by staying at home, which pushed everything towards remote platforms. This might have had a moderately low effect on our surroundings, but concerning production, it is causing delays in production, working capacity and costs are going up;”. Some said “There will be more attention towards survival and safety than on sustainability;” one said “No idea;” and again someone said, “Hopefully it will create thought into producing environmentally safe clothing, starting from farming, to design and to the whole supply chain involved;”. Some also said, “During this time, companies decided to shut down due to low demand for products;”. Another one responded by saying “Manufacturers and retailers in the business have to incur huge losses;” also “Consumers will not have the ability to buy often and hence will start looking at the better valued eco-friendly product.”

Therefore, in a nutshell, the students seem to be aware of and vaguely know about the aftermath which this pandemic will have on the sector globally. Therefore, the clothing and textile module focus should also be on eco-textile products and recycling, as the way further.

5.5. What to Consider in the Inclusion of Content/ Module Development?

Below are the answers from students towards the query “*Are there any different feedback which you want the researcher to keep in mind when it comes to developing content for the field?*”

“How to make people aware about sustainability as about 90% of people, especially the young aren’t aware of it.”

“Think of ideas controlling companies from discarding misspend items in disposal areas which also contaminates water. Also, find methods for water-purification that is being deteriorated by dyestuff pigments coming from factories.”

“None.”

“Enact regulations which compel raw material providers to stick to the conscious collection of items.”

“The nation needs to bring back their own textile manufacturing companies to avoid days like these.”

Overall, students realized the need for inclusion of sustenance in the higher education industry. It's not just about bringing it into daily usage but also to acknowledge its need and value and be alike globally when it comes to expertise in production and creating a product.

6. Conclusion

The paper creates a basis for high importance towards the inclusion of sustainability as part of the curriculum to the Clothing and Textile qualification. Feedback from students shows that they know, acknowledge, and realize the basics and terminologies of "sustainability" whereas feedback from certain other questions proves that there are crevices when it comes to knowledge and understanding among students. These outcomes should motivate higher education educators who are willing to improvise students' ideas about sustainability to enhance their focus on the content to user-centered and not industry-centered sustainability issues. Although Armstrong and Le Hew (2014) confirm that one needs to find alternate methods and avenues to amalgamate sustainability to the complete curriculum, it will nevertheless add worth in bringing mini-projects into the modules one followed by another.

Sustainable education has been a term that has its significance since the past years and it will keep on doing to be a crucial criterion in the coming years. Considering sustainability to be a supplement subject to the current modules is merely ill-considered. Therefore, including sustainability in the curriculum is merely the initiation of addressing this topic into clothing and textiles according to students' clothing and textile backdrop with differing knowledge. Future study is required to efficiently extend such a topic amongst the syllabus in such a manner that it will join the gaps into three domains of the planet i.e., human being, nature, economical aspect about the clothing life cycle to use or reject and/ or to reuse.

The research comes with certain limitations, where it has also highlighted the need for further clarification. While the research paper has outlined the perception of students' knowledge it has also shown the shortcomings. Firstly, the number of students that were part of the research was very low, that is probably because it's a new qualification. Secondly, a further recommendation could be a more in-depth follow-up study with the new batch of students.

Taking wider representation among various institutions in SA can lead to facilitating and assessing the understanding and buying behaviour of students. Further analysis could be carried out to research such variables, by using both genders from different faculties of higher

education institutions. One can also investigate assessing the environmental knowledge on the methods that would encourage greater sustainable buying behaviour.

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