

## **Assessing the Integration of Sustainability Concepts in Consumer Science Fashion and Fabrics in Secondary Schools in Eswatini**

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### **Abstract**

This study explored the integration of sustainability concepts within the Consumer Science (FF) curriculum in secondary schools in Eswatini focusing on the challenges encountered during the process. This qualitative study utilised a descriptive case study design. The purposive sampling technique was used to select a sample of 12 Consumer Science teachers in the Hhohho region secondary schools. Data were collected using semi-structured interviews with teachers and document analysis of curriculum materials to gather comprehensive insights. The findings revealed that while sustainability is acknowledged as a crucial aspect of education, its incorporation into the Consumer Science Fashion and Fabrics curriculum is inadequate. Teachers reported facing significant challenges, including insufficient training and resources, leading to inconsistencies in the delivery of sustainability education. Practical challenges, such as inadequate facilities, limited time, and financial constraints, further impeded the effective teaching and learning of sustainable practices. The study concludes that there is insufficient integration of sustainability concepts in the Consumer Science Fashion and Fabrics curriculum. The study recommends downscaling of curriculum content and integration of more explicit sustainability content, alongside enhanced professional development for teachers and increased institutional support.

**Keywords:** Sustainability, Sustainability Practices, Fashion and Fabrics, Consumer Science, Curriculum.

### **Introduction**

As the global emphasis on sustainability intensifies, there is a growing need for educational systems to incorporate sustainable practices into their curricula. Worldwide, the education systems have recognized the importance of incorporating

sustainability into the curricula to prepare students for the challenges of the modern world. The integration of sustainability into education is essential for promoting environmentally conscious and socially responsible citizens (Kratochwil & Peltonen, 2022). Hence, teaching students about sustainable living, resource management, and the impact of their choices on the environment, educators can help shape behaviours that contribute to a more sustainable future.

In Eswatini, one of the curricula that made effort to integrate sustainability is Consumer Science education. However, the integration of these sustainability concepts within the Consumer Science Fashion and Fabrics (FF) curriculum in secondary schools remains under-explored. Despite the recognized importance of sustainability in education, there are concerns that the current Consumer Science Fashion and Fabrics curriculum may not adequately address these issues. The effectiveness of the teaching methods used to convey sustainable practices is also in question, as educators face various challenges, including limited resources, insufficient training, and a lack of appropriate teaching materials (Pelletero, 2024). These challenges may hinder the ability of students to fully grasp and apply sustainable practices in their daily lives. Moreover, there is a lack of comprehensive research assessing the extent to which sustainability is embedded in the Consumer Science (FF) curriculum and how well it is being taught. This gap in knowledge raises concerns about whether students are being adequately prepared to make informed, sustainable choices that will positively impact their households and communities. Therefore, this study sought to explore the integration of sustainability in the Consumer Science curriculum of secondary schools in Eswatini and identify the challenges faced by educators in incorporating sustainable practices into their teaching, and provide recommendations for enhancing the quality of education in this critical area.

**Research Questions**

- 1 How is the sustainability concept currently integrated into the Consumer Science curriculum in secondary schools in Eswatini?
- 2 What challenges do educators face in incorporating sustainable practices into their teaching?

**Methodology**

This study adopted the qualitative research approach in order to gain in-depth insights into the experiences, challenges and perceptions of educators towards the integration of sustainability into the FF curriculum of Eswatini high schools.

**Research Paradigm**

The constructivism research paradigm was used for this study as it prioritizes the lived experiences, interpretations and understandings of the individuals involved, in this case, the teachers (Kratochwil & Peltonen, 2022). In this study the teachers do not passively receive information about sustainability but they actively build their understanding through practical activities, reflection, and engagement with real-world challenges. In this way, constructivism provides a flexible and context-sensitive framework for understanding how sustainability is integrated into the Consumer Science (FF) curriculum and pedagogy in Eswatini.

**Research Design**

This study adopted a descriptive case study design to explore the integration of sustainable practices within Consumer Science education in Eswatini secondary schools. A descriptive case study research design is a qualitative approach used to explore and document a specific phenomenon in its real-life context, particularly when it is not well understood (Kratochwil & Peltonen, 2022). The descriptive case study was well-suited for gaining a clear understanding of the current state of sustainability education in Consumer Science (FF).

### **Population and Sample**

The population of the study were all the Consumer Science secondary school teachers in the Hhohho province. Given the qualitative nature of this study, a smaller, more manageable sample size was chosen to allow for in-depth exploration of each participants perspectives. A sample of twelve (12) Consumer Science teachers from six (6) secondary schools were purposively selected from diverse settings (urban, peri-urban, and rural) across the Hhohho region to reflect varying educational contexts and resource availability.

### **Data Collection Instruments**

The instruments used were semi-structured interviews and document analysis. The teachers were interviewed while the Fashion and Fabrics curriculum was analysed for aspects of sustainable concepts. The two instruments allowed for a more comprehensive assessment, contributing to the trustworthiness of the findings.

### **Semi-Structured Interviews**

Semi-structured interviews were conducted with Consumer Science teachers to probe into their perspectives, practices and experiences related to integrating sustainability in their teaching. The semi-structured format balanced structured questions with open-ended inquiries, allowing for flexibility to explore emergent themes (Adeoye-Olatunde & Olenik, 2021). Questions focused on how teachers interpreted curriculum guidelines related to sustainability, the specific topics they emphasized in class and the pedagogical challenges they encountered.

### **Document Analysis**

A systematic analysis of curriculum documents, textbooks and other instructional materials related to Consumer Science (FF) was conducted to evaluate the extent and nature of sustainability integration. Key documents included the national Consumer Science curriculum guide, Fashion and Fabrics syllabus and resource lists

recommended by the Ministry of Education and Training. The analysis examined the presence of sustainability topics, objectives and competencies outlined in the curriculum, the recommended pedagogical approaches and the suggested resources for teaching. This document review was essential to identify the formal stance of sustainability within the curriculum and to cross-check alignment with the teachers' experiences. Document analysis occurred concurrently with interviews ensuring that insights from these instruments informed the analysis of the curriculum.

### **Data Analysis**

Data analysis began with transcribing interviews and focus groups verbatim, allowing researchers to familiarize themselves with participants' language and context. Thematic coding was employed, starting with open coding to identify recurring ideas, followed by axial coding to group related concepts into broader categories such as sustainability issues and curriculum challenges. Themes were refined iteratively to ensure they accurately reflected participants' insights. Data triangulation, comparing interviews and document analysis, helped confirm or refine emerging themes. Findings were then contextualized within the Eswatini education system, highlighting sustainability challenges and policy implications.

### **Informed Consent**

Informed consent was a critical aspect of the research process. Prior to participation, all individuals involved in the study were provided with detailed information about the purpose, procedures, risks, and benefits of the research. Consent forms clearly outlined the voluntary nature of participation. Emphasis was that participants could withdraw from the study at any time without any negative consequences.

## **Presentation of Results**

Findings of this study are presented according to research questions.

### **Research Question 1: How is the sustainability concept currently integrated into the Fashion and Fabrics curriculum in secondary schools in Eswatini?**

The themes that emerged for research question 1 were: resource management, wardrobe planning and recycling, fabric and material choices and traditional attire and cultural sustainability collectively promote sustainable practices among students.

#### **Effective management of materials, time and equipment**

The syllabus content emphasizes the importance of managing materials, time and equipment effectively and reducing waste and encouraging innovation in how materials are used, leading to creative solutions that can enhance sustainability. Teachers highlight that this focus helps students understand the logistical aspects of fashion design. One teacher stated that:

*When students learn to manage their resources well, they not only complete their projects on time but also develop skills that are crucial for any career in fashion. This management instils a sense of responsibility and encourages students to plan their work meticulously. (Teacher 5)*

*Students begin to see the value in using materials efficiently. They learn that less waste saves money and is also better for the environment. (Teacher 1)*

#### **Wardrobe planning and recycling**

##### **Consideration of recycling and renovating clothing**

The syllabus includes objectives focused on wardrobe planning, encouraging students to consider recycling and renovating their clothing. Teachers emphasized the importance of this approach, with one stating that:

*Discussing how to give new life to old garments is essential. It teaches students that fashion doesn't have to be disposable. This aspect helps students rethink their relationship with clothing and builds a culture of sustainability. (Teacher 3)*

*I see students get creative with how they can alter and repurpose garments. Its a fantastic way for them to express individuality while being sustainable. Teacher 11)*

### **Fabric and Material Choices**

#### **Awareness and care of Various Fabric Types and Blends**

The syllabus includes content about different fabric types and blends, emphasizing their properties and uses. Teachers reported that the curriculum covers techniques for maintaining and caring for various materials, which promotes informed and sustainable consumption. One teacher noted that:

*When students understand the materials, they are working with, they can make better choices for both their designs and sustainability. Teaching students how to care for their garments properly can extend the life of their clothing significantly. You know what; by learning these techniques, students are equipped with the knowledge to make sustainable choices throughout the lifecycle of their clothing. (Teacher 6)*

### **Traditional Attire and Cultural Sustainability**

#### **Integration of traditional Swazi dress into contemporary styles**

The results show that curriculum content encourages students to creatively integrate traditional Swazi attire into modern designs. Teachers have noted the significance of this integration for cultural sustainability. One teacher shared that:

*Students take pride in their heritage when they incorporate traditional elements into their work. It reinforces the importance of cultural identity in fashion. This integration fosters respect for local customs and practices while encouraging innovation. (Teacher 12)*

**Research question 2: What challenges do educators face in incorporating sustainable practices into their teaching?****Fully packed syllabi that limit time for in-depth coverage of sustainability**

Teachers noted that dense curricula leave little room to add sustainability content without sacrificing other essential topics. Educators expressed that the existing curriculum makes it difficult to add additional content on sustainability. This constraint means that while educators may value sustainability, they are limited by the need to meet established objectives and standards. One teacher stated that:

*The syllabus is already packed, and trying to fit in sustainability topics without compromising other areas is challenging.* (Teacher 9)

**Limited access to eco-friendly materials and tools due to budget constraints**

Access to sustainable materials emerged as a common challenge. Teachers reported that obtaining eco-friendly materials often strains limited budgets, affecting the depth of practical experience they can offer students. One teacher noted:

*We Would love to use organic or recycled fabrics, but the cost is prohibitive. Sometimes, it feels like sustainability is only for those who can afford it.* (Teacher 7)

**Lack of training on sustainable practices and eco-friendly teaching techniques**

Another challenge revealed is lack of training specifically related to sustainability in education. This gap in training affects educators' confidence and their ability to design impactful sustainability lessons. Without sufficient professional development, some educators feel underprepared to teach sustainability topics effectively. One teacher shared,

*"We need more targeted training on sustainable practice to understand how to integrate sustainability. Otherwise, we're just relying on what we read or hear which may not be enough."* (Teacher 10)

### **Discussion of Findings**

This section discusses these findings, gaps, and contextualizes them within the broader literature, highlighting areas for improvement.

#### **Research question 1: How is the sustainability concept currently integrated into the Consumer Science curriculum in secondary schools in Eswatini?**

##### **Focus on material conservation but limited eco-friendly access**

While the syllabus emphasizes resource management, teaching students to plan, conserve, and optimize materials, teachers pointed out the limited availability of eco-friendly resources due to budget constraints. Literature supports this observation, showing that low-resourced schools often struggle to implement sustainable practices fully when eco-friendly resources are scarce (Nelson et al., 2021). Previous studies suggest that merely emphasizing resource management without providing adequate sustainable resources may inadvertently reduce the depth of students' learning, as they lack first-hand experience with sustainable materials (Sehnem, 2024). Consequently, there is a gap between theory and practice, as students learn about sustainability without access to tools that could enhance their hands-on understanding of eco-friendly fashion.

##### **Wardrobe planning and recycling emphasises on reuse but gaps in life-cycle awareness**

The curriculum encourages recycling and wardrobe planning, promoting the reuse of garments. This aligns with literature that supports recycling as a key element of sustainability education in fashion (Jamaludin, 2024). However, one gap identified by teachers is the absence of a life-cycle perspective in the syllabus. Current studies emphasize the importance of integrating life-cycle assessment (LCA) in fashion education to help students understand the environmental impact of materials from production to disposal (Bhatnagar & Niinimäki, 2024). Without this broader perspective, students may view sustainability only as recycling, missing other stages

where impact can be minimized. Introducing LCA would offer students a more comprehensive framework for understanding the environmental impact of clothing and deepen their sustainable mind-set.

### **Limited coverage of emerging sustainable textiles**

The syllabus covers fabric types and care techniques, fostering students' understanding of fabric durability and maintenance. However, teachers noted a curriculum gap in covering emerging sustainable textiles, such as organic cotton, bamboo, and recycled fibres, which are becoming more prominent in the industry (Baloyi, Gbadeyan, Sithole, & Chunilall, 2024). This gap limits students' awareness of evolving sustainable practices and trends in textiles, which are crucial as the industry shifts towards circularity. The absence of exposure to these materials leaves students less prepared to understand the diversity of sustainable options, a crucial aspect for future professionals in a rapidly evolving field.

### **Strong local emphasis on cultural sustainability but limited global context**

While the curriculum promotes cultural sustainability through traditional Swazi attire, supporting students' appreciation of local customs, the syllabus does not sufficiently address sustainability in a global fashion context. Literature shows that understanding sustainability within both local and global frameworks is essential for a comprehensive perspective on fashion environmental and cultural impacts (Djossouvi, 2024). A narrow local focus may hinder students from recognizing global sustainability issues and the impact of fast fashion trends on diverse cultures. Studies advocate for a dual approach, integrating both local heritage and global awareness, to equip students for a globalized fashion industry (Iannilli & Spagnoli, 2024). Without this broader context, students may lack the knowledge necessary to navigate and influence sustainability on a larger scale.

## **Conclusions**

This study concluded that sustainability is promoted through curriculum themes like resource management, wardrobe planning and cultural sustainability. These elements were found to encourage responsible decision-making, resourcefulness, and a cultural appreciation for local heritage, supporting a foundation for sustainable consumer habits among students. However, educators face obstacles, including packed syllabi, limited resources, and inconsistent support, which restrict the depth and continuity of sustainability instruction. These results advocate for enhanced support systems, on-going teacher training to close the gap between curriculum content and current sustainability practices

## **Recommendations**

### **Recommendations for further research**

Further research could examine the impact of community and parental engagement on students' adoption of sustainable practices, considering the cultural and social dynamics unique to Eswatini.

### **Recommendation for Practical Applications**

Based on the findings, actionable recommendations can be made to improve sustainability issues in Fashion and Fabrics:

**Curriculum Revisions:** Stakeholders in education policy should consider revising the Fashion and Fabrics curriculum to allow more dedicated time for sustainability topics without overcrowding the syllabus.

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