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Design ergonomics and sustainability using waste fabrics and technology to create new accessories.

Ana Fernandes,Moreira da Silva*

FAUTL,1349-055Lisboa,Portugal

Abstract

This article aims to study and develop new products applied to accessories, using technology and fabric waste produced in the industry, in order to address two issues that we consider relevant: The first question to investigate relates to the problem of fabric remnants produced in the textile industry and which end up being regarded as waste.The second question concerns the problem of the excessive weight of bags that are used by women and children in their daily life and which end up being a risk factor for the posture and the health of users.As fabric waste is a problem in the industry, since it is not used or they do not know how to use these materials, the goal will be to develop a new line of accessories. These accessories will incorporate ergonomics and also focus on the importance of reducing the excessive weight of bags, using for this purpose new textile materials to use up waste arising from the normal activity of the textile industry.For current society, environmental issues have been assuming a growing concern, and it has therefore become necessary to analyse and to be aware of the global market by developing new mechanisms, where the use of textile waste can appear as a solution to the development of new design pieces for fashion accessories using sustainable materials.The present research focuses on the development of a line of accessories, the most ergonomic possible, where the qualitative approach and the descriptive exploratory methods were used in the development of this study. The data collected through semi-structured interviews of 13 women and 13 children was analysed using the hermeneutic method - dialectical. The study results show that the excessive weight of the bags are a problem for the postural health of the person using it, hence the need to develop the most up to date line of accessories possible while taking into account ergonomic, sustainable and technological aspects.

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* Corresponding author. Tel.: +351 966603794; fax:
E-mail address: ana.fernandess72 @gmail.com

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1. Introduction

In order to meet the defined objects, published literature needs to be collected and processed. The theme in question *"Design ergonomics and sustainability using fabric waste and technology to create new accessories"*, requires a preliminary phase, create a bases for the knowledge in the different areas inherent to this study.

Over time, we have become accustomed to seeing Design as having the ability to link the functionality to beauty; nonetheless today this trend has other obligations.

According to Victor Papanek[1]" *the talent to combine the rigorous technical considerations in the created form with the concerns of social and human factors and the aesthetic harmony*". Here we can see that Design cannot be disassociated from social experiences and include within the strategy the awareness of human and social causes.

Papanek questions this concept:

" Will design significantly help to sustain the environment? Will it make life easier for a group that has been marginalized by society? Will it help the poor who are deprived of their rights? Will it save energy or, better still, help to create renewable energy? Will it help to save irreplaceable resources?"

According to Teixeira e Cesár,[2] the questions raised here lead us to ecological contributions at the Design level, or to the so called Eco-Design, known as *"DFE (Design for Environment- a project for the environment), it is a Design specialization which takes into consideration the environmental requirements during the whole life span of products"*

" the Project which is environmentally orientated should allow for products that pollute less, use less natural resources, less energy, and should further be easily accessible, seeking to respect local cultures. Such products, should keep these characteristics throughout their life cycle, from the moment the raw material is gathered for production, until it is finally disposed of".

Bruno Munari[3] refers that, apart from the concerns relating to recycling, the designer should also think about the questions of reusability, where he admits that many of the things that are disposed of can be transformed. At this point the designer should analyze the materials and their characteristics to see just how possible the changes are.

The attempt at the fusion between beauty and functionality with ecology, may constitute in the creation of new sustainable and realistic aesthetics.

Victor Papanek[4] " The concerns with the environment and with the underprivileged of our society is the most profound and powerful basis that should give form to design." In this analysis the designer reflects on his work, reinventing it and benefiting as such society in general so that the project being developed can contribute to the ecological side and the development of new, more sustainable products.

2. Research Question

How to develop ergonomic and technological products in the design of accessories, using ecological material?

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