EXPLORING SENSUOUS QUALITIES OF TEXTILES

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ABSTRACT

As designers we engage with materials in various ways throughout the design process. Especially textile designers who are met with a demand to be able to describe and communicate textiles – in words as well as in physical materials. In this paper we propose a tool consisting of a sensorial wheel and a visual wheel aiming at textile design students at a foundational level.

The tool is meant to develop textile designers' awareness and language by evaluating existing textiles, but at the same time providing the students with an open tool to readjust and combine with other methods and include in their existing design process.

The tool has been tested in a workshop at BA level and showed that students were able to evaluate and vocalise their chosen textiles and the sensorial qualities the textiles expressed by using the two wheels. In the reflection session afterwards, we have focused on the outcome of the sensorial wheel for the students to reflect on the use of the tool and how they experience sensorial qualities differently, thus developing their individual design language and process.

Keywords: Design education, textile design, textile expression, sensuous qualities, learning tool

1 INTRODUCTION

Making, describing and selecting material is something design students are engaged with throughout their education. In this paper we look closer at the textile as material of investigation. We find it relevant to explore textiles specifically, as textile designers are highly engaged with the development of textile materials, including choices on fibre, yarn, construction and after-treatment level. Here students are met with a need to explain their material choices in relation to technical, aesthetic and functional aspects. Furthermore, since textiles are applied to a certain context, it is essential that the embedded sensuous qualities expressed in the textile match the context of use.

With this paper we want to develop and explore a tool mainly for textile design students to engage with the sensuous qualities of textile materials. This is done as a support for students to further develop a vocabulary to enrich their decision making and communication of design choices, when developing textile materials or selecting them for certain applications.

In design education different scholars have contributed with tools and methods aimed for design student to explore the sensorial dimension of materials. Examples of these are *The Experience Map* [1,2], *The Comparative Scale of Materials Attributes* [3], *The Repertory Grid* [4], *The Tripod Approach* [5], *The Atlas of Materials* [6], *The Meaning of Materials Tool* [7], *The Materials in Product Selection tool* [8]. The proposed tool is not meant to be used instead of these, but in addition to, together with or before these, as we wanted to develop a tool for design students on a foundational level. Consequently, the tool provides the student with an uncomplex approach to work with sensorial qualities using the tool as an entry point for further and more complex exploration of materials and their attributes.

To develop our tool, we used *The Experience Map* (ExpMap) as a primary inspiration source and build on parts of the framework it presents. The ExpMap presents a procedure of five steps that takes the user from an existing product and a vision statement ending with a sensorial analysis [2].

1.1 Why create another learning tool?

In our tool we wanted to have emphasis on the textile itself and less on the context of use, here being an existing and envisioned product or vision statement. Furthermore, since the tool is aiming for mainly textile design students at a foundational level, these can be regarded as novice designers, we have wanted to develop a tool consisting of two activities that can be used together but also independently. Moreover, representing an institution with strong focus om design methods and processes, we have wanted to

propose ways to approach and understand textile materials that can add to students' existing tools introduced in the programme rather than a defined framework. In our tool, emphasis can be put on the reflection and discussion session after comparing the sensorial wheels, building on the work of Schön's theory of reflection-on-action [9,10].

The tool proposed in this paper is also a part of a larger pedagogical frame and teaching methods, for instance we have asked the students to build a repository of materials, a material library, which the students collect and produce themselves, which they afterwards can use in different exercises, taught at the school, and as a part of their design projects. This means that the tool can be presented in class as a brief exercise and then be modified and combined with other tools in multiple ways.

Finally, we found it crucial to develop a tool that encourages students to actively engage with – and sense - physical material samples (e.g., collected materials or materials produced as course work) using a hands-on and analogue tool that can be printed and worked with by students individually, in smaller groups as well as in class settings.

In the paper we first introduce the tool, we then explore and test the tool in a workshop with design students and we present the findings and discuss the insights from the workshop and present future work.

2 SENSORIAL AND VISUAL WHEEL

The developed tool consists of two wheels: a sensorial wheel and a visual wheel. In Figure 1, the templates for the two wheels are shown. For the wheels, we have worked with six categories: *Colour, Shape, Sound, Odour, Tactility and Texture*. Some of these categories relate to a certain sense while others are a combination of senses e.g., *Colour* relates to our visual sense, while *Texture* combines both the visual and touch senses. This approach forces the user of the wheel to focus on all the sensorial qualities of a textile simultaneously.



Figure 1. The sensorial wheel (left) and the visual wheel (right)

Inspired by the ExpMap, in the sensorial wheel we use multiple contrasting word pairs to create scales to assess each category. In the *Colour* category the word pair *Mellow-Vivid* is contrasting each other as a scale to subjectively evaluate the colour from. Contrasting word pairs continue around the wheel and gives a visual representation of the sensorial qualities of the textile. In the sensorial wheel new word pairs can be added to allow the user to personalise and thus describe the textile of sensorial investigation as thoroughly as possible, an example can be seen in Figure 2 visualised by a dashed line.

The visual wheel is a continuation of the sensorial wheel. The user chooses one word from each of the six categories and writes the word under the square assigned to each category. The chosen words are used as inspiration to find a visual material representation that describes the word of interest, thus adding a visual 'layer' to describe the textile.

The tools are meant to be worked with in a physical form, providing the user a hands-on approach to evaluating sensorial qualities of textiles, thus allowing easy reflection and discussion, since the wheels can be placed next to each other and shuffled around to allow multiple configurations. Configurations could be e.g., comparison of multiple material samples by individual students as a means to understand contrasts in materials or comparison of material samples amongst a group of students to understand contrasts in students' understanding and interpretation of the samples.



Figure 2. A section of the sensorial wheel showing how a word pair could be added

3 THE WORKSHOP - CONTEXT

The workshop was carried out as a part of a BA course at our institution on material strategies during the sixth semester. The workshop was attended by four textile design students, two accessory design students and six industrial design students. In the workshop, we wanted to introduce the wheels as a learning tool to understand expressions of already existing textile samples. For the workshop, we prepared 5x5cm textile samples of various compositions, differentiating in fibre, construction, colour and texture to provide the students with samples holding contrasting sensorial qualities.

We also provided the two wheels on A3 size paper to emphasise the physical interaction with the textiles and to allow for a physical, hands-on discussion. In Figure 3, the two wheels with the same sample made by one of the students is shown.



Figure 3. An example of one of the students filling in the two wheels

The students were asked to choose two textiles and evaluate these based on both wheels. Some students chose to work individually while others worked together. After students had evaluated their chosen textiles, all wheels were placed next to each other, shown in Figure 4, to provide a visual overview and allow for direct comparison between wheels and to support reflection and discussion among students on their evaluations and how the use of the tool was experienced. To evaluate the tool and the workshop, notes and insights from the students were written down, while the students were working with the wheels as well as in the discussions afterwards.



Figure 4. Students discussing their wheels in groups comparing how they have analysed the sensorial attributes of the chosen textile

4 FINDINGS

During the workshop, some students found it easy to work with the wheels, while others were a bit more apprehensive until they got started. After a few initial questions, the students worked concentrated on the two wheels. It seemed to help the students working in groups, being able to discuss together on how they would evaluate the sensorial qualities of the chosen textiles, already reflecting on the sensorial qualities and vocalising their understanding with each other, while filling out the wheels.



Figure 5. Examples of how students have filled in the sensorial wheel for one of the samples. Sensorial wheels for three students have been placed on top of each other

In Figure 5 the three sensorial wheels from students having chosen the dark blue knitted cotton textile are shown. Each of the students is indicated with a colour. This represents differences as well as similarities between the different sensorial wheels, thus visualising how students evaluate sensorial expressions in different ways.

In the following session where the wheels were compared, students mentioned that they found it useful to work with textile materials, which are easier to compare, because they are in "family." It was evident, that students compared the two textile samples with each other, which was not initially something we asked them to do. Here they evaluated the sensorial qualities by contrasting the two textiles they had chosen and, in some cases, using the same wheel templates. In addition, some also personalised their sensorial wheels and added contrasting word pairs, mainly in the sound category. On this, one student expressed that it could be a challenge to compare contrasting materials e.g., metal and textiles as their sensorial qualities would differ extremely. Overall, the students found the wheels useful and expressed an interest in using this approach in future design projects, also adjusting the tool to fit into their own design process.

Since different design disciplines were participating in the workshop, it was interesting to observe how these worked differently and thus evaluated the sensorial qualities differently. E.g., in one group, with an accessory and a textile design student, they discussed that the textile design student was biased, because he was trained in working with textiles and thus had a larger vocabulary and already existing knowledge of textile materials.

5 DISCUSSIONS

With this tool we wanted to create a way for the students to explore sensorial qualities of already existing textiles and to further develop a language around textiles, expanding their vocabulary on textile qualities and to train the student in nuancing their reflections with the textile material itself and about textiles qualities with others.

We chose to develop an easy to use and open tool to allow the design students to modify and integrate it into their own design process.

Based on feedback, it was important for the students to realise, that there were no 'right' answers and that we as educators are not to describe differences, but for students themselves to discover and acknowledge that they experience textile samples in different ways; subjectively as 'users' and objectively as 'design professionals,' thus training their ability to distance themselves from the experiment afterwards.

We have chosen to aim the tool for textile design students, since they are occupied with physical materials as their primary focus and are trained throughout their education to develop a language around sensorial quality. Textile designers deal with sensorial qualities as a core part of their design practice and providing them with this tool, we wanted to communicate in a tangible way, how they can explain and visualise, how they evaluate textiles and thus how they make decisions in their design process and being able to argue for those decisions.

It was a big advantage to test the tool with third year bachelor students, since they are almost graduated designers, they could very well articulate their evaluations and reflect on the tool, which provided valuable feedback. In future work we are planning to test the tool with more novice design students in earlier semesters, thus seeing if students in their early education can use the tool and how they evaluate sensorial qualities of textiles, also allowing us to follow how they incorporate and iterate on the tools in their own projects. One example, was a group of students in the BA course, where we introduced the tool. They used the tool as a part of the evaluation of their own material samples, thus applying the tool in another contexts than textiles, shown in Figure 6.



Figure 6. Examples of how students have worked with their own design project using the tool on DIY material samples

6 CONCLUSIONS

In this paper we introduced a tool inspired by the ExpMap as further development to use for foundational design education for primarily textile design students to develop the design student's language about textiles by evaluating already existing textile samples. The tool consists of a sensorial wheel and visual wheel, where the sensorial wheel describes contrasting word pairs based on sensorial qualities and the visual wheel shows chosen words from the sensorial wheel as pictures. We tested the tool in a workshop with third year bachelor design students, of which some were textile designers. Findings indicated that students overall found the tool useful and were able to reflect on the tools afterwards both in comparing their sensorial evaluations of the textile samples with each other, but also reflecting on whether they thought they could apply it in their own design process and how.

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