

Abstract

The Designer's Material Compendium is a website intended for everyone who is interested in natural materials and crafts. It is an educational project aimed at restoring knowledge about traditional materials and crafts practiced in Poland. It is addressed to all enthusiasts of ecological solutions in the low-tech design trend. It is an attempt to build a platform which accumulates the knowledge about natural materials in the context of product design, materials science, ethnology, history of design, and crafts. The aim of the project is to provide a useful tool for designers, architects, and students of different specializations, such as design, architecture, and ethnology.

The doctoral dissertation is divided into four parts. "Introduction" is devoted to the context of creating the Designer's Material Compendium. This chapter describes trends in design education. In recent years, the use of natural materials in design has been an object of interest of leading universities around the world. In the "Trends in education" section, I presented a few examples of programs that address the above-mentioned topics. Continuing this subject, I described my vision and the methodology of teaching design students during the Materials and Contexts classes, where I bring up the topics of natural materials, crafts, and new technologies in design.

The combination of technology with knowledge of natural materials and design thinking may result in innovative solutions in the field of design. Modern tools, such as robots or 3D printers, allow a completely new approach to working with traditional raw materials. This is why in my professional work, I try to encourage students to discover new opportunities by familiarizing themselves with traditional materials and handicrafts. The classes with students and my research carried out at the Academy of Fine Arts and Design in Katowice made me realize that there is a lack of substantive content useful from the designers' perspective. The existing publications on natural materials and their use in design are scarce and they attract little interest in this subject in the design world.

That is why I decided to design an educational tool in the form of a website. The website collects content from the field of crafts, design, and cultural and social anthropology. In the original idea, I wanted to create a printed publication that would contain information useful for students. Through surveys, interviews, and talks with the target group, I verified the initial assumptions of the project.

Therefore, the second part of the doctoral dissertation presents the research methodology that was used to create the design assumptions for the educational tool. My interlocutors were both designers who use natural resources in their projects and craftspeople who are particularly involved in the above-mentioned topic. I also decided to cooperate with experts in the field of anthropology.

Moreover, I decided to conduct a survey among designers who specialize in various areas of design. My objective was to learn where Polish designers obtain knowledge about natural materials and whether they see the potential in using

them in their work. One of the questions I asked in the survey was, "Can knowledge of traditional craft techniques be useful in the work of a designer?" 60 designers responded through the questionnaire. In addition, I asked five designers and educators who work with natural materials to comment on their own experiences of acquiring knowledge about natural materials.

The research area was limited to one natural material – aspen wood. This material was used on a large scale by craftspeople in Kozięgłowy – a town located between Katowice and Częstochowa in Poland. It is a town with a few thousand inhabitants in the Silesian Voivodeship. The research methods I chose were to be tested on this example. In the future, this method can be used to explore other materials.

I chose aspen wood for the compendium because it is not a commonly used material. This plant is often considered a weed. However, it is worth getting acquainted with in terms of both the properties of the raw material and the projects that have been carried out over the last several decades by craftspeople from Kozięgłowy. This once thriving center has almost given up the use of this material. Hence, I decided to focus on aspen wood to introduce designers and students to a locally processed material and its potential in design as well as to the history of local crafts.

I asked my interlocutors about their motivation to determine why they have been involved in this craft. The interviews with people who have devoted their professional lives to the craft of chipping were a valuable source of knowledge about the functioning of the cooperative, material processing techniques, and the secrets of making products from aspen shavings. The interviews and surveys with designers, in turn, allowed me to diagnose what type of information may be useful in the design process. The interviews revealed the lack of a holistic approach to teaching about materials in design education. The workshops with craftspeople, on the other hand, provided a practical insight in craft techniques and emphasized the potential of using traditional techniques and materials in contemporary design. I also recorded tutorial videos of traditional weaves from Kozięgłowy for designers.

Summarizing the research results allowed me to make guidelines and assumptions for working on the educational tool. The interviews with designers and the survey results proved the importance of maintaining and continuing craft traditions. For many designers, local heritage is a source of inspiration to create new things. Traditional techniques and the use of natural materials foster respect for local resources. Besides, my research demonstrated that natural materials are not widely used because the knowledge about their processing is not shared. Currently, it is largely reserved for the environment that continues the crafts traditions. Thus, designers, by using this knowledge in practice, can influence a wide group of recipients with their own work, while raising their awareness about responsible consumer choices.

Some of the information included in the compendium is the knowledge of the history of design and crafts. Designers and architects should be responsible users of material resources. The attempts to create a national Polish style, the

activities of S. Wyspiański and S. Witkiewicz or the members of the Krakow Workshops and the ŁAD cooperative as well as the knowledge accumulated over the years by the employees of Cepelia rarely translate into contemporary projects by architects and designers. These achievements are most often treated only as strictly historical knowledge. If used at all, it is superficial – reduced to drawing inspiration from decorative patterns, without delving into the symbolism and knowledge of the material and its properties. Meanwhile, the knowledge of traditional techniques and materials combined with the possibilities of today's technology can be a catalyst for true innovation. Therefore, for the purpose of the Material Designer's Compendium, I wrote special articles on this subject, available in PDF. They can be found in the part of the work titled "Subject matter of the compendium".

My main motivation to create an educational tool was the need to collect and systematize the knowledge passed on to students during the Materials and Contexts course. The lack of substantive sources – publications that could be used in this course – made me wonder what type of educational tool would be useful in conducting classes. The challenge was to select the appropriate substantive content and an accessible way of presenting it.

After analyzing the results of the research and consulting my students, I decided that the best tool to implement the design assumptions was going to be a website. The first edition of the Designer's Material Compendium in the online version presents one of the materials that was the subject of my research, i.e., aspen wood chips. In the future, I will add information about other raw materials to the platform. However, collecting reliable information from various fields on the selected topic requires time and careful research. The platform can constantly develop with new substantive content. The website is also a presentation of the effects of student works carried out as part of the Materials and Contexts course at the Academy of Fine Arts and Design in Katowice. The website presents the methodology and it includes educational tools that students can use in classes. The website will also be used to publish articles and research results on natural resources.

Extensive research activities resulted in my desire to share the research results with a wider audience. At the same time, the Museum of Częstochowa was conducting its own research on aspen chips and Kozięłowy crafts. That is why I combined my research with Ewelina Mędrała-Młyńska and Agnieszka Ciuk-Koćwin from the Museum of Częstochowa. Our cooperation resulted in the concept of an exhibition, which was presented to the public in April 2021. The exhibition was based on the materials from my own research queries and from archival materials.

During the research, I was also able to archive some of the traditional Kozięłowy designs and describe the tools and traditional colors and materials. Some of the research results were presented at the exhibition during the Łódź Design Festival (17–20.09.2020) and during an individual presentation at the Kler showroom in Katowice. The exhibition showed works which were material experiments with aspen chips. Works by the following students were presented:

Marta Źmija, Preety Naveen, Dominika Mazur, Maria Paperz, Karolina Gałuszka, and Marta Gabiga.

Part III – “Design” includes the assumptions of the project, analysis of target groups, and design solutions. This chapter also presents promotional ideas – how the Designer’s Material Compendium can be presented to a wider audience. In the third part, I described the substantive, functional, esthetic, technological, and economic assumptions. In addition, I created proto-personas and user paths to simulate how users might apply the Designer’s Material Compendium. The proto-personas were created to visualize the individual functionalities of the website and its content. The characters include Ela – a freelance designer interested in the subject of natural materials, Robert – a product design student, Jola – an ethnologist, and Adam – an interior designer. Each of the characters represents different needs and shows different ways of moving between content. This chapter also includes drawings and diagrams with detailed descriptions of the logotype, colors, and the typography of the logotype and the website.

I described how its structure was shaped – including what categories the content was divided into and how the user can navigate through it. In the work, I presented the construction of both the home page and the subpages. The navigation through the content is presented on the example of one of the materials – aspen. In addition to the description of the color functions and selected typefaces, I described the rules for creating graphic elements for the page. This was necessary because the materials come from various sources – both from my own research and from my students. By scanning the QR code or clicking the link in the electronic version of the work, it can be viewed and tested.

The presented version of the website contains mainly information on the selected material – aspen chips. This example is meant to simulate what type of content may be collected on the website in the future. The tabs devoted to other materials – cattail and wool – indicate how the content can expand.

The last element of the study is the content prepared by me and external experts for the website. The materials collected as part of my research were marked with the footnote “own study”. Part IV “Content of the Compendium – Materials for the Page” contains information on raw materials, a description of the cultural context, and interviews with artisans and designers. The last element of this chapter are descriptions of student projects that were created in the Materials and Contexts course .

The previously mentioned interviews with designers and craftspeople can be read in full in the work. Moreover, they were made available on the website as PDF files. Information about aspen is the result of extensive searches in various sources. In the doctoral dissertation, it is collected in the form of an article, while on the website, there is a tab “About materials”.

The content on the history of design and craftsmanship complements the articles I wrote: “Historical context – the use of crafts and natural materials in design projects”, “Crafts today – definitions and contexts”, and “Cepelia (CPLiA) – an excellent project?”. The website can be downloaded in PDF.

The work is supplemented with articles that were written by external experts specifically for the purpose of the dissertation. Associate professor Kinga Czerwińska from the University of Silesia in Katowice, in her text titled "Follow the material. Reflections on the identity of crafts", touches upon the context in which craftspeople function today. Cultural issues, including references to folk tales, are discussed in the work "Aspen in the folk vision of the world" by associate professor Katarzyna Marcol from the University of Silesia. The history of two cooperatives that produced products from aspen chips is outlined by Ewelina Mędrala-Młyńska from the Museum of Częstochowa in her article "History of Zawada and Koziegłowińska". Jakub Wieczorek, PhD, from the Silesian University of Technology shared the results of his research on the properties of aspen chips. They are presented in the section "Aspen wood - aspen shavings - properties - strength". In addition, the thesis includes descriptions of student works carried out as part of the Materials and Contexts course. I wished to demonstrate how the knowledge transferred during classes translates into the students' way of thinking.

The Designer's Material Compendium project is primarily an educational tool for students of design universities and a networking platform for experts in various fields. The materials published on the website serve as an example of substantive content. Therefore, the website contains substantive information on selected raw materials, didactic tools for students, and promotional content. I assume that this is just the beginning and the content of the website will keep growing. I plan to obtain materials on further natural resources in the course of my research carried out at the Academy of Fine Arts and Design in Katowice. I hope that the content of the compendium website will be a source of inspiration for future students participating in the Materials and Contexts course.

In addition, I hope that the Designer's Material Compendium will be a pretext for the exchange of research insights, not only between students, but also between lecturers from other universities. The pilot edition was designed in Polish, however, I plan to translate the content into English in the future.

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