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Kosonen, Krista; Mäkelä, Maarit

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The 5th Intercultural Arts Education Conference: Design Learning

Designing platform for exploring and reflecting on creative process

Krista Kosonen^{a,*}, Maarit Mäkelä^a

^aAalto University School of Arts, Design and Architecture, P.O.Box 31000, 00076 Aalto, Finland

Abstract

This article introduces the intensive course *Design Exploration and Experimentation (DEE)*, which encourages students' free creative expression and supports managing of the creative process. The main objective of the course is to provide students with insights into inventive processes by utilizing the means of experimenting, exploration, documentation and reflection. In this article, we present one student's creative process in detail. Through this example, we emphasize the significance of teaching reflective and exploratory skills as a part of design education. The main purpose of this article is to lay the foundations for the *DEE* course as an educational platform.

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Keywords: education; design; platform; reflection; creative process; experiment

1. Introduction

Design Exploration and Experimentation (DEE) is a response to a request to design an MA-level course in which design students have the opportunity to experiment with materials and means. In contrast to the explicitly framed design tasks, this course allows the students to define design tasks themselves, as well as the means they use to produce the desired outcomes. The freedom to choose one's own task and outcome is supported by providing a course frame, which consists of numerous tasks related to becoming inspired, documenting the creative process and reflecting on it.

^{*} Corresponding author. Tel.: +358-50-5631106 *E-mail address*: krista.kosonen@aalto.fi

The main idea of this intensive nine-week course is to support students in managing their creative processes by documenting and reflecting on them. This goal emerges from values related to self-understanding and personal creativity as a constructive part of design work. The course starts by introducing predefined themes for initiating the creative processes, during which the students create concrete artefacts based on their interests. *DEE* supports collective exploring and learning by means of several sharing and discussion sessions between teachers and students. This allows students to follow other students' creative processes and reflect on their approach and progress in relation to others.

The roots of the course are in studio-based practice. The core idea of the course can be found in the field of practice-led research, which was initially developed in art and design universities to open up and study creative processes related to artists' and designers' doctoral studies (see e.g. Mäkelä, 2006). In practice-led research approach, the artist-researcher is engaged in both the creative practice and research practice. The aim of this enterprise is to study one's own artistic process and its outcomes (see e.g. Mäkelä, 2003; Turpeinen, 2005; Nimkulrat, 2009). The *DEE* platform can be described as an educational implication of practice-led research, in which research and teaching are intertwined. In a larger context, our study is connected to Empirica research unit, which develops exploratory and artistic methods in research and education at Aalto University School of Arts, Design and Architecture.

Our research focuses on the second *DEE* course organized in the first quarter of 2011. Our approach is informed by the ethnographic research tradition, emphasizing the importance of fieldwork and authors' intensive engagement with the course throughout its duration. Mäkelä, with her background in education, ceramic art and research, has co-created the platform together with industrial designer and lecturer Simo Puintila in 2009. Kosonen, with her background in spatial and furniture design and research, has participated in the *DEE* 2011 and 2012 courses as a course assistant. The insights presented derive from our engagement with teaching in the course as well as the rich data the course has provided, including students' working diaries, notes, sketches and written weekly reports and final reflections.

Our analysis is based on the ongoing, constant evaluation and interpretation we have carried out during the course, and it is completed with documentary analysis based on the written material the students' produced. During the course, we made careful observations of each student and followed their processes in shared discussions, as well as via one-to-one tutorials and weekly reports. By holding regular meetings between teachers, we ensured that all of us remain on track regarding the overall progress, and made adjustments to the course programme to achieve the desired goals.

The focus of this article is on the creative process. We are specifically interested in how the presented platform supports students in framing and managing their individual creative processes. In order to illustrate how these processes proceed, we first present the platform and course structure. After that we elaborate the discussion via one student case, by taking a closer look at one student's creative process. In the conclusion chapter we reflect on the configuration of the course and discuss how the presented elements serve as essential parts of the goal of nourishing students' individual creative work.

The main contribution of our article is to provide a detailed student account that shows how learning and reflection happens during the course. According to behavioural scientist Kaisu Mälkki, this type of practical example, which shows what actually happens and what is gained through reflection in an educational setting, has gained less attention in studies related to reflection (2011, 1, 3). In order to put the student's reflection into context, we also describe the course in detail to reveal how this reflection is facilitated.

2. Design Exploration and Experimentation as a platform

The Design Exploration and Experimentation course was designed in 2009 to a request from the Design Department at Aalto University School of Arts, Design, and Architecture to complement

contemporary Industrial & Strategic Design education with a traditional approach to design, which refers to classical Finnish artists' and designers' hands-on work in their studios. The corresponding teachers, Maarit Mäkelä and Simo Puintila, mentioned Finnish national romanticism and related artists and architects, such as Akseli Gallén-Kallela and Eliel Saarinen, as some of the inspiring actors in building the content and frame for the course.

The course allows the students to define the design tasks themselves as well as the outcomes, for which the only requirement is that they become finalized artefacts at the end of the course. Focusing on individual creative processes, the course emphasizes the investigation of the personal, unique expression of each student, highlighting artistic, exploratory ways in design. One of the goals of the course is to bring art and design into a fruitful dialogue and experiment with how artistic and "designerly" ways can feed one another.

The nine-week *DEE* course has been arranged three times, and it has consisted of 12-15 MA design students. The first course was arranged in 2010 with the theme *Lapland and The Roots of Culture*. The second course, held in 2011, had the theme *Karelia and Identity*. In 2012, the theme is *Espoo and Family*. The male and female participants represent different design fields. Most of the students have their educational background in industrial design, but students from the fields of textile design, spatial and furniture design as well as fine arts have also participated in the course. The students, aged from 21 to 36, have represented several countries, including Finland, Switzerland, Germany, Italy, France, the Netherlands, South Korea, Taiwan, Mexico, China and the U.S.A.

The course starts with a pre-assignment, in which the students are asked to prepare a presentation of themselves and their view of the selected theme. During the second week of the course, the students are taken on a five-day excursion to the preselected location. The objective of the trip is to create a warm atmosphere between the students and the teachers, and gather information and collectively generate inspiration around the theme. After the excursion, the course continues by processing the experiences gained and developing emerging ideas according to the weekly structure. During the course, the ideas are transformed into concrete artefacts, and at the end, presented publicly in an exhibition.

The weekly structure forms a supportive follow-up frame for both students and teachers. Mondays, Wednesdays and Fridays are reserved for individual work. During these days, students develop their ideas, reflect on their process, and complete given tasks. Tuesdays and Thursdays are reserved for collective actions, including presentations, sharing sessions and group discussions. During the individual working days, there is also the possibility of having personal tutoring or mentoring meetings with the teachers. The aim of collective and one-to-one sharing is to enable critical discussion around each ongoing project.

The given tasks consist of readings, writing tasks, and presenting an inspiring artist. The reading tasks are given during the first half of the course to support and inspire the students. They consist of articles related to reflection and documentation as well as the given theme. The writing tasks consist of three parts. Firstly, the students are required to keep a working diary, in which they document, write, draw or otherwise work on their ideas. Secondly, they write weekly reports, in which they reflect on and describe their progress, problems, insights and other relevant issues related to their creative processes. Thirdly, after the course is completed, the students write a final reflection, in which they reflect on the whole process. So far, most of the final reflections have become booklets, consisting of an illustrated narration of the process as well as the main concerns or insights related to it (Figure 1). The course ends with an exhibition of the concrete artefacts. The outcomes have revolved around art, craft, and critical design.

From this point onwards, we will discuss the platform in more profound way by utilizing the documentation and reflection that one student has generated during the course. The student, Kevin Smeeing, is a 22-year-old student from the Netherlands, and his background is in industrial design engineering. The case comprises rich written and visual material, including working diary notes and

sketches, weekly reports, and final reflections as well as visual documentation, which have taken place at different stages during the creative process. The 2011 course frame, *Karelia and Identity*, drove Kevin to question his professional identity in a profound way.

Among the students Kevin was one of the most dedicated and active student, willing to invest a lot of time in the course and engaged in utilizing the platform to reflect on his values and motivations. As such, Kevin's case is unique and does not represent all the students. Rather, it is selected as an example, since the emotions he experienced and the actions he took to steer his process can be found in the majority of the students' reflections. By introducing his case, we aim to emphasize the significance of educating reflective and exploratory skills as part of design education.



Fig. 1. Spreads from (a) Kevin Smeeing's and; (b) Alberto Casati's final reflections

3. Stepping into the creative process

The focus of the course is on the open-ended process. Instead of giving a pre-defined task to the students, the course supports free expression around the given themes. This approach can be seen as typical to artists, who aim to keep the creative process open, reframing it several times, and letting it be influenced by surprises and insights that take place during the process. Accordingly, social scientist Donald Schön (1983, 268) speaks about "the art of their practice" when referring to the professional practitioners who deal with situations of uncertainty, instability and uniqueness. This "reflective conversation with the situation" is a pattern of activity which he also calls reflection-in-action.

One of the main objectives of the *DEE* course is that it challenges students to discover and learn ways to frame and control their creative processes. In her study related to fine art practices, Janet McDonnell (2011) found out that artists use different enabling constraints to create coherence and discipline in their work process. These constraints may be, for example, alibis and conceits, which support the need to create and maintain a coherent atmosphere in a work, or they can be related to aesthetic pre-occupations or materiality. The constraints may be also disregarded once they have served as "a way in" to the project (ibid. 560-563). We believe that becoming aware of some of these constraints may help students to control the process, as well as reframe the task when necessary.

In the *DEE* context, some students mentioned that they find it difficult to initiate the process, since they are used to following the previously taught *design process*, which starts with a design brief. Even though the design briefs in other design courses may be loose and easily reframed, providing a lot of flexibility and possibilities for free expression, the lack of a similar type of brief in the *DEE* course is considered to be difficult by some students. Since industrial design tasks are mostly done in groups and in collaboration with many stakeholders, the stepping into the individual creative process may cause anxiety, since the student sets almost all the requirements for the outcome and justifies the decisions and relevance of the project alone.

The first step in the design process is to clarify the task in order to continue with research and searching for suitable concepts (see e.g. Cross, 2007, 70). Thus, for most of the students who participate

in this course, the freedom to decide upon the problem to be solved, and solving it with self-defined tools and methods, has been a new experience. In order to facilitate the stepping into the creative process, the given themes provide a starting point for idea generation. Hence, instead of defining the problem, the students are fed with a variety of impulses and views on the specific theme. The initial idea may stem from different experiences. During the beginning of the course, Kevin writes about his initial inspiration in his weekly reflection after a visit to The National Museum of Finland in the following way:

"..things that caught my interest were the crafts; weaving in particular. Not only weaving as a technique, but also the patterns that were in the woven fabrics or in the embroidery." (Weekly reflection 1-2)

After describing that he looked for information on traditional Karelian crafts, Kevin continues:

"Weaving was a traditional craft that provided the family needs. (...) The sounds that were produced while weaving also scared away the evil spirits. This weaving as a way of dealing with life also was a sort of metaphor of the Karelian people that had to integrate with the other Finns and build up their identity again." (Weekly reflection 1-2)

The theme, in this case *Karelia and Identity*, is addressed in various ways during the course. One of the most influential experiences is the five-day journey to the selected location. During the journey, the students are given lectures related to the theme, and they visit different locations and organizations which tackle the topics. Outside the official course programme, teachers and students share thoughts and ideas daily during different informal collective activities, such as sauna and dinner. The main purpose of the trip is to provide a setting which enables the building up of team spirit between the students, as well as between students and teachers. In the ideal case, it creates a safe environment which encourages everyone to start their own creative process and discuss the emerging concerns related to the uncertainty of their process openly, at the beginning and also during the later phases of the course. The open relationship with other students encourages discussing emerging concerns:

"Because I still wanted to know how the others felt when it came to insecurity with their work and the field of design these days, I asked one of my colleagues if we could have a chat about it. She wanted to talk about it as well and we planned to go for a coffee at Regatta. Another friend joined and we ended up sitting there for three hours." (Working diary)

After the trip, when starting the actual individual creative processes, the students approach the themes and tasks from various viewpoints. Inspiration for an idea may begin to develop by reflection on internal views, such as reflecting on past personal experiences. Alternatively, the inspiration may start from external, observed phenomena, as well as from a dialogue between these two. Despite the trigger point for a graspable idea, it is essential to note that so far all the selected themes have provoked reflection on personal experiences during the course. This personal reflection seems to connect the students tightly to the themes. The combination of the intimate themes and individual creativity is challenging and requires a well-planned structure and implementation to achieve the encouraging and nourishing atmosphere in the course.

Kevin explored the theme identity in relation to professional identity. In his weekly reflection, he explains why he is interested in craft values even though he has been educated as an industrial design engineer:

"For me doing certain crafts, for instance working on ceramics, makes me feel relaxed and secure. (...) When I had to choose a university, I chose Industrial Design Engineering, but I always had the feeling I was missing something and tried to do projects beside my studies where I could express myself in a different way. (..) Because I am now at the stage where I am thinking about my own identity, and my identity as a designer (...) I am really attracted to do something with craftsmanship in combination with identity." (Weekly reflection 1-2)

It can be concluded that in the case of the *DEE*, stepping into the creative process can happen in diverse ways. The trigger for ideation may start during the excursion as well as during the visits to different locations. Furthermore, the inspiration may derive from nature, other artists' work, one's own experiences, lectures and discussions, to mention a few examples. In many cases, the external input woke up internal reflection, a question that had existed before but was not really addressed earlier, as in Kevin's case.

4. Exploring and experimenting

In this framework, exploring and experimenting refer to several issues. First, the students have to explore the theme via the inputs provided, such as readings, lectures, excursions and discussions, as well as by familiarizing oneself with some inspiring artist's or designer's works. Second, the trip allows exploration in the selected location, which has, throughout each course, been surrounded by stimulating Finnish nature. Third, the students have the chance to explore an unknown art or design-related field, one which they have not had the opportunity to study before. For instance, an industrial design student, who has mainly been focused on service design, working with concepts and scenarios, may have an interest in trying out ceramics or textiles. Fourth, it may also refer to a subconscious or unexplored part of the student him- or herself, when exploration is tightly connected with reflection.

Exploring a previously unknown territory also refers to stepping out from one's comfort zone. The concept of a comfort zone has been proposed by Mälkki (2011) in her study related to theorizing the nature of reflection. For Mälkki, the comfort zone refers to the pleasant experience of being able to maintain one's meaning perspective and make meaning in an unproblematic way (ibid. 30). Stepping away from the comfort zone may cause uncertainty and unpleasant emotions, but by reflecting on those emotions one may understand the assumptions and beliefs behind one's emotions. This critical reflection may lead to transformative learning (Mezirow, et al. 1996), which broadens one's perspective to cover new perspectives and views.

Exploration and experimentation start to make more sense as the creative process proceeds and students begin to crystallize their ideas in visual and textual formats. These crystallizations combine the several interests and viewpoints on the given task.

"The direction I prefer to go on with is putting identity into a piece of furniture by doing some crafts yourself as reaction on the changing world (globalization and digitalization) where the crafts get lost." (Weekly diary 4)

In the course context, experimentation has many and varied meanings as well. It refers to hands-on actions, such as creating tangible prototypes to pilot and concretize abstract ideas in a concrete format. It also refers to experimenting with materials in order, for instance, to capture the essence of the material or learn a certain material's qualities and behaviour. In addition, it can mean just playing with materials in order to find a suitable way to transform the idea into a tangible format. Furthermore, experimentation refers to new methods and ways of working and managing the creative process. Ergo, it addresses

different tools concerning how to gather, illustrate and present information in different visual and material forms. Finally, it can also refer to the playful attitude adopted to make sense of the selected task via different actions.

Since the majority of the attending students have studied industrial design as their major subject, it is relevant to understand what industrial designers value in their education. According to Pinar Cartier (2011, 2187–2191), industrial design students' consider creative activities and creative methods to be the most important ones in their education. The students value attributes, skills and knowledge, which help them to be creative, innovative and solve problems. Since innovative problem-solving requires the ability to look at the problem from various viewpoints and in an unconventional way, exploration and experimentation support creativity.

Indeed, experimentation brings out the very essential part of any creative process: the coincidences, failures and surprises that happen when one deals with unfamiliar issues. Experimentation can be a means to break boundaries, face uncertainties and release one from a restricting block, when doing and thinking seem not to proceed in the desired way. As Kevin describes, experimentation helped him to proceed in the process, one in which thinking had left him "stuck".

"Thinking seriously about my future is not a bad thing, but I need to make sure that my thoughts don't block me in my work by creating too much pressure... I had set myself the goal to explore, experiment and try to get back the freedom I had when I was a child." (Weekly reflection 4)

After explaining how he engaged with hands-on work, Kevin describes how experimentation can provide an escape from uncertainty and thinking:

"To become more secure again and to get rid of certain thoughts I started to work more with my hands." (Weekly reflection 4)

Kevin continues elaborating on the same issue in his final reflection:

"When I did not know how to deal with my thoughts, I started drawing something; drawing made me feel satisfied and after I had been drawing, my mind was open for the project again." (Final reflection)

In this sense, experimentation brings a certain type of artistry to the managing of the creative process. It encourages acting in a dialogical relationship with thinking. It can also extend thinking, as Schön (1983, 280) describes, in the tests, moves and probes which are typical for experimental action. In a fundamental level, together with the reading and writing exercises, it shapes the situation (ibid. 369) and addresses the beauty of balancing between doing and thinking.

However, the exploration cannot go on endlessly. Towards the end of the course, the focus has to switch from experimentation to careful planning and realization of the selected idea (Figure 2). This requires understanding of the timeframe and trust in one's personal capacity as well as the others who help in creating the arteact.

"After making the decisions about the final measurements I started cutting the beams to the right sizes and angles. While doing this I tried to make it understandable by using the big space next to the workshop where the other students were working and laid down all the beams I had already cut." (Weekly reflection 7-8)



Fig. 2. From experimentation to making. Kevin's (a) weaving test and; (b) the house parts laid out before assembly

5. Documenting and reflecting on the creative process

In this pedagogical context, documentation can be seen as a way to process and interpret the course experience. The students have mainly written, drawn, painted and otherwise illustrated their thoughts and ideas in their working diaries (Figure 3). In addition to this, some of the students have used audio recorders and video recorders to capture intriguing phenomena, or already existing material to illustrate their interest points.

Documentation makes the creative process visible, allowing one to return to any part of the process afterwards. Thus, the core idea of documentation is tightly connected to reflection. When reflecting on what one has done, documentation may also be able to give insights into previously unconscious actions in the process. These features are why documentation and reflection have played important roles in the practice-led research approach (e.g. Mäkelä & Nimkulrat, 2011).

Thus, it is not surprising that documentation is a frequently-used method in design education. Currently, many design courses consist of documentation and reporting tasks, which either support collecting data, making field notes, or describing the process and completed actions, as well as reporting afterwards what was learned and reflecting on the process. In the DEE course, documentation also acts as one communication tool between students and teachers. It allows teachers to keep track of the sometimes very sensitive and fragile creative process, and offer support to students when necessary.

In the DEE platform, documentation and reflection were utilized in three steps during the learning process: firstly, students documented their experiences, ideas and thoughts in their working diary; secondly, students reported how their creative process proceeded in their weekly reflections (Figure 4); and thirdly, students concluded their creative process and insights related to this in their final reflections.

Since the duration of the course is short, reflection happens mostly in action as well as during the short breaks between actions, describing and opening up the creative process as it proceeds. When Schön (1983) discusses this reflection-in-action, he refers to different professional practitioners, who possess a large quantity of tacit knowledge due to their long experience. This knowledge becomes visible in their actions, especially when they face new, unfamiliar situations, and have to draw from different experiences

in order to respond to the problem at hand (ibid.) Similarly, students' reflection-in-action is based on their experiences and knowledge, and may reveal their patterns of action when documented and reflected upon.



Fig. 3. Spreads from Kevin's working diary

Kevin reflected on his process in an active way. His meaning-making became visible to us via his written reflections as well as during our discussions. Due to this, his process was easy to follow and support. One of the triggers for reflection for the students was social interaction. During a discussion related to Kevin's work in progress, his thinking was pushed into an uncomfortable zone, when some people encouraged Kevin to step away from his idea.

"After the conversation around the table I started to think about the way I work. (...) I did not really like to step away from the idea because I had just made the decision to go for it." (Weekly reflection 5-6)

After realizing his annoyance, he continues to reflect on this discussion by referring to it, and reflecting on its impact on his accustomed way of working.

"Something Simo said during the conversation around the table that stayed in my mind, was 'Break your way of thinking about things. It is important to open your inside structure to be able to accept new information.' This made me think, because I noticed I disliked their input. It also made me think about previous projects where I did not really want to step away from my main idea. When I am very into the project I always see comments about changing certain things as bad, because I think they change the whole idea. I realized that most often this is not really the case, but I only perceive it that way because I cannot distance myself from my project. Taking distance and zooming out to be able to criticize my own ideas in the final stages of the concept design is something I have to improve." (Weekly reflection 5-6)

Kevin's extract shows how Kevin reflected on the discussion, as well as on his previous actions, which in Donald Schön's terms would be described as *reflection-on-action*.

Reflection can be painful, even though it is needed in order to realize existing thought patterns. Due to the dangers of profound reflection (e.g. Mälkki, 2011, 18), the level of reflection is not set in the course. Based on our experiences, it is evident that many students consider reflection to be demanding; thus, it is

also done in various depths. Consequently, even though the course requires reflection, it does not define the depth of reflection, but rather provides a good opportunity to an intensive study of one's own creative process. As result of the course, some students end up writing philosophical ponderings about their profession, values and choices, while some are more descriptive in their writings and presentations.

Though for us it seems that some students learn new things about themselves when reflecting on their actions, the level of reflection can not be captured from outside. As Mälkki (2011, 18) points out, a superficial-looking pondering may be to the person a big step towards something new, just as profound reflection may be just a repetition of an old way of working. Since the course aims to encourage students to explore a new area in order to broaden one's perspective, this cannot be required, just offered as an option.

Throughout the course, the creative processes are opened up in different ways. Some students prefer to make sense of their process in visual ways by drawing, painting and taking photos, for instance, while some prefer writing or discussions. Since the context of the course is an art and design university, the students are mostly visually oriented. Thus, we consider that it is important to allow different meaning-making methods, and not emphasize only the textual or verbal representations of thoughts and insights.



Fig. 4. Weekly reflections from (a) Ren Tong; (b) Alberto Casati; (c) Kate Ivey-Williams and; (d) Natalie Weinmann

6. Conclusion

In this paper, we have described how the intensive course *Design Exploration and Experimentation* is configured through different elements, which all serve as essential parts of the unique educational platform. Besides the practice-led research approach, the basis of the course can be found in the tradition of studio-based art and design, emphasizing the values related to hands-on work and the dialogue between man and medium. The safe and trusting atmosphere of the course supports the students in finding their individual way of working with the selected themes, also allowing them to tackle intimate topics. In addition, the framework encourages students to employ critical reflection – not only in relation to the selected theme, but also in terms of the way they frame their individual design tasks and manage the whole creative process.

The underlying values of the platform relate to the importance of self-understanding and awareness of personal creativity as the foundation for the capability to practice empathic and thoughtful design. This self-understanding and discovery of personal creativity is encouraged by the supportive weekly structure, organized documentation (working diary, weekly reflections and final reflections), process sharing

sessions (one-to-one tutorials and weekly sharing sessions in the group) and regular meetings between teachers. Documentation transforms internal thoughts and emotions into concrete words and pictures which can be examined in order to learn new aspects of one's creative process. Likewise, the sharing sessions establish a nourishing but critical dialogue between the participants. Teachers and peers function as mirroring surfaces for the student, both encouraging and questioning the student in the different steps of the creative process. Furthermore, the regular meetings between teachers enable the sharing of different views on the students' processes, allowing constant critical evaluation and adjustments to the course as it progresses. As such, none of the presented elements is a novelty, but based on the results we argue that the configuration of the course provides a fruitful platform for learning to understand and manage creative process.

It is possible to summarize as follows: the *DEE* course is an adventure into one's individual creative process. The course supports the discovery of managing the creative process by reflecting on one's own personal way to express ideas, thoughts, and arguments with the help of documentation. The platform feeds the students with different inputs, serves as a forum to share and develop ideas, and encourages the experimenting and breaking of individual boundaries in relation to one's own skills and knowledge. The elements presented refer to the nourishing atmosphere and environment, which gives both freedom and structure, encouraging the students to explore and experiment by stepping out from their comfort zone and letting their personal view take the central position in the task.

As Tara Winters (2011, 90-91) points out, art and design students are required to be independent and self-directed, since design practice requires a high level of self-motivation and self-management. The *DEE* course can be used as a platform to test one's independence and control over the creative process, and the challenges and weaknesses discovered can still be improved before graduation. The open-ended process may also develop the student's ability to benefit from, as well as to tolerate, uncertainty, changes, and surprising factors, all typical to a creative process. In addition, students may learn to nourish their design process with artistic tools and approaches, such as experimenting and trying out several ideas with material means.



Fig. 5. Kevin inside his project Dealing with feelings, a conceptual piece of furniture

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