Constructing knowledge through perceptual processes in making craft-art

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The focus of the study is on the knowledge that is constructed through perceptual processes during craft making in the context of the Finnish Basic Education in the Arts (BEA) system. Craft studies in the BEA are defined as craft-art. The research method used is the grounded theory. The data consists of seven interviews and participant observations. Participants in the study are adolescents who study craft-art in the BEA system in Visual Art School, Aimo in Hämeenlinna. The aim of the article is to present, define and reflect on the concepts, properties and dimensions concerning perceptual processes that are discovered in this stage of the study following grounded theory procedures. The perceptual processes are an essential means of constructing knowledge in craft-art. Consequently, one aim of the study is to discuss how these processes are connected to various types of knowledge. The perceptual processes are described by seven concepts: imitative, anticipative, evaluative, experimental, emotional, temporal and bodily perceptions. They indicate on a conceptual level the characteristic of knowledge constructed through perceptual processes in craft-art. Further, the concepts have several properties that can vary dimensionally between two qualities. The properties are activity, function and position. The dimensions of the properties vary from active to passive, formal to informal and internal to external. In conclusion, the concepts can describe a large range of incidents in different situations. They also seem to describe well the practice of craft-art and there are several connections with pre-existing concepts of knowledge.

Keywords: Craft, Knowledge, Perceptual process, Basic Education in the Arts, Grounded Theory

Introduction

Making a craft object activates the human senses in various ways. It can be seen as a very profound way to perceive the surrounding reality and the individual self. A fascinating question is if something unique occurs in human perception during craft making. Does touching the materials or having aesthetic experiences in craft making sensitize people to perceive in some specific way? These questions lead to the focus of this study: Perceptual processes in craft making. The aim of the study is to provide some conceptual tools for understanding the nature of the perceptual processes in craft making in educational settings. Accordingly, the central question of this study concern knowledge construction in craft through perceptual processes and the characteristics of those perceptual processes.

My interest in knowledge construction in craft making originates from the time when I taught crafts in secondary school. I frequently remarked that students needed and processed a great variety of different types of knowledge in craft assignments during the lessons. I began to realize how many ways craft making is integrated with various kinds of knowledge.

As a craft teacher, I am also interested in the perceptual process in craft as a pedagogical issue. Can skilful perception be taught? How can a teacher direct students' perceptions and still allow for students' own sensory experiences to develop? This study does not provide any answers to these questions, but aims to build the basis for the pedagogy of perception. Consequently, it seems obvious that in order to develop a pedagogy of perception in craft education, it is essential to understand more profoundly the complexity and characteristics of the process of perceiving in the craft process.

This qualitative research is based on a grounded theory method in which the data consists of interviews and participant observations. The participants in the study were 14–16-year-old craft students who were studying crafts once a week as an after-school activity. The Basic Education in the Arts system organizes this leisure-time activity in Finland. In the BEA system, craft is considered one form of visual arts and it is called craft art. In this context, the traditional and modern ways of craft making are approached through art and seen as artistic processes.

This study is the first part of a larger research project focusing on the knowledge that a craft maker constructs through perceptual processes during his or her craft process in the context of the BEA system. This article presents the first results of the grounded theory analysis (Strauss & Corbin, 1990). This stage of analysis is called open coding. During open coding, the framework of the research emerged. From this foundation, the study will proceed in more depth and examine the relations between the categories and concepts that have been found.

The aim of this article is to present, define, and reflect on the concepts that are found in the research process. The research question is: What kind of knowledge is constructed by perceptual processes in making craft-art? In addition, there are three further questions: (a) With what kind of concepts can the perceptual processes be described in the context of craft-art? (b) What are the characteristics of these concepts? (c) What kind of knowledge construction do these concepts describe?

Perception seems to be a more complicated phenomenon the deeper or wider it is studied. Which scientific approaches are needed to understand perception in craft making? Human perception can be explored as a physiological, psychological, cognitive and philosophical phenomenon (e.g., Goldstein, 2002; Klemola, 2004; Merleau-Ponty, 2002, 2004; Neisser, 1980.) The results of this research can be reflected on in the context of these approaches; however, the primary approach in this article is cognitive. As a psychophysical concept, perception is defined as conscious sensory experience and as a dynamic and continuous perceptual process (Goldstein, 2002, p. 4–7). In this study, the concept of perception means the entire perceptual process including the consequences of perception such as the recognition of objects and even actions occurring after an actual perception.

This article consists of four parts: a definition of the context of the study and the basic concepts; a presentation of the research method; a report on the results of the first analysis, and a discussion of the connections between the results and selected theories about human perception, knowledge and craft. In the data, connections to the essence of human perception as presented by Klemola (2004), Merleau-Ponty (2002), Varto (2001) and Gertler (2011) can be found. Knowing as a result of a perceptual process has also been described by Bereiter and Scardamalia (1993), Bereiter (2004), and van Manen and Li (2002). The concept of craft-art is defined according to Karppinen's concept model (2001, 2005, 2008).

The context of the study

The purpose of the Finnish Basic Education in the Arts (BEA) system is to provide activities to supplement the art education curriculum offered by comprehensive schools. In the BEA system, study is a voluntary, after-school activity, but it is goal oriented and students progress from one level to another. Children, adolescents and adults can study different art forms, such as music, dance, literature arts, performing arts and visual arts, which includes craft and architecture. The youngest children are five years old and they study for two years. The 7-year-olds begin what is called basic studies, and the 12-year-olds have advanced studies consisting of several workshops on such subjects as for example clothing design, textile design, felting, and ceramics. (Basic Education in the Arts, 2013.)

The main objectives of craft in the BEA system are related to the artistic way of working, learning self-expression skills, and solving problems. The purpose of the activity is to learn to design and make unique, functional, aesthetic, high quality, ecological products. The result of a craft-process can also be a piece of art. Children learn to use different materials and techniques. Students learn craft skills by doing and experimenting. One objective is for students to become familiar with different craft cultures and aware of their historical and social meanings. The teaching is focused on perceptions of the environment. It is hoped that students will learn to perceive, interpret and evaluate crafts as cultural objects. There are also objectives that are related to such values as appreciating nature and taking responsibility for aesthetics of the environment. Learning in the BEA system is also a social and collaborative situation that develops students' social and communication skills. (National Core Curricula for the BEA, 2002.)

The concept of craft-art in the BEA system

Seija Karppinen (2001, 2005) defines craft education in the BEA system as craft-art. The concept of craft-art is here defined based on Karppinen's concept model (2001, 2005). Craft is seen as a process to transfer abstract ideas and concrete materials to cultural objects (see e.g., Kaukinen, 2006; Alexanderson, 2007 and Seitamaa-Hakkarainen, 2009). It is a phenomenon in which a human being is involved in both a material and immaterial way. Karppinen (2001, 2005) has called this internal and external actualization. In craft-art, there is an art-oriented design and a construction process; a product or a piece of art is the concrete result of the process. In that process, the artistic vision and technical knowledge of a craft maker become something concrete through the senses, thought, emotion and creation. Internal actualization refers to the inner change or mental growth of a craft maker (e.g. Kojonkoski-Rännäli, 1995). It appears in behaviour or expression. In addition, the result can also be dynamic and processual, something other than a concrete product (Karppinen, 2001, 2005, p. 87, 163).

Activities during the craft-art lesson are based on cultural and environmental knowledge and values. Culture and environment both function as a source of inspiration and as the subject of craft making. In craft-art, a teacher designs assignments that are often related to a theme. The key to planning teaching successfully is to communicate with students and let them influence the content or points of view of craft making. In order to gain inspiration students need to find some connection between the making and their current interests or reality. (Karppinen, 2001, 2005, p. 87, 164.)

Karppinen (2005, 2008) defines craft-art with the concepts of *inspiration, initiative, appearance,* and *meaningfulness*. Inspiration functions as an orientation and impulse to artistic craft making. It can lead to initiative. Meaningfulness in craft making originates internally; it does not necessarily need any outside motivator. The teacher is a guide or coach who tempts and nourishes inspiration, activates and supports the student's own initiative and creates opportunities for appearance (see Seilo, 1999). In craft-art, appearance means students' different actions and communications that present the visible results of the craft-process to others and express the meanings concealed in their products or processes. An exhibition is an example of an appearance. (Karppinen, 2005, p. 167–170; 2008, p. 34).

The process of craft-art is initiated by perceiving, exploring, experiencing and discussing a chosen topic or theme. Students' perceptions and interpretations, experiences and emotions during the process are transformed into concrete qualities in the form of a product or a piece of art. This is called expression. At the same time, with this concrete activity of making, students reflect on their thoughts, earlier experiences, feelings, and skill. Reflection means realizing, considering, discussing or acting to

developing skills, abilities, perceptions and expression. (Karppinen, 2001, p. 90–122; 2005, p. 53, 88–89, 163.)

To summarize, craft-art approaches craft making from the visual arts point of view. Students need to find inspiration to have initiative to express something internal in an external form. The craft-art process is complex by nature in the same way as an artistic process. Accordingly, the research method should be able to take into consideration the complexity of the phenomenon

Grounded theory as a method

Grounded theory (GT) is a qualitative research method that is directly based on data. Grounded theory consists of carefully defined, systematic procedures that are meant to proceed flexibly in terms of the research process. There are three different stages of coding in the research process: open, axial and selective. This study progresses gradually from open coding towards axial coding. However, it is probable that these stages do not always occur in that order. Data collection and analysis are processes strictly bound together. The research does not proceed linearly from one stage to the next, but rather the stages are in progress simultaneously. (Glaser, 2001, p. 176.)

Traditionally the method has used systematic procedures to develop only an inductively derived theory about a phenomenon. Goldkuhl and Cronholm (2010, p. 188) find this purely inductive way of working in GT to be both the strength and weakness of the method. They see it as essential for the reliability of an emerging theory to compare and contrast empirical findings with other pre-existing theories. This is called theoretical grounding. Consequently, it was considered worthwhile to review the literature already at this stage of the study. (Glaser, 2001; Goldkuhl & Cronholm, 2010; Strauss & Corbin, 1990, p. 48–52.)

The grounded theory was chosen as a method because the subject of the study is very complex by nature and grounded theory allows the researcher to be as open-minded as possible. In addition, the idea of building a model that is merely based on data was fascinating, even though the existing theories would be included in the process at some point. This requires a great deal from the research method. In the beginning, I did not quite believe that the GT process would proceed as it has been described to work in the literature. It has been astonishing to see how well the grounded theory has worked thus far in this study.

Data collection and analysis

The participants in the study were 14–16-year-old BEA students of the Visual Art School, Aimo, in Hämeenlinna, Finland. At that time, they pursued their advanced studies in a workshop where they gathered once a week for a lesson that lasted 2 hours and 15 minutes. I participated in this workshop for several weeks in 2003, observed the activity in the group, talked with the students about their craft processes, and made field notes. The interviews were also made during the workshop. I interviewed seven students; some of them were interviewed twice. Some students wanted to be interviewed together with another student. Altogether seven 15–20 minute interviews were made. The data consists of about 13,000 transcribed words. Although the data was collected ten years ago, it includes plenty of rich and valuable information as the following analysis shows. Neither human sensory experiences nor activity in the context of the BEA have essentially changed during this time. Further, the data will be supplemented with more recent and various kind of data, for example video material and notes that informants can write during the making process.

When I first visited the workshop, I participated in the lesson as one of the students. They were practising felting with a needle. It was a new technique for me and most of them. I had an opportunity to learn with the students and at the same time get to know them. The first questions for the interview were formulated based on this shared experience.

All the interviews were recorded even though Glaser (1989, p. 207; 2001, p. 54) does not recommend doing so. He suggests that the researcher trust in the field notes and memos made afterwards. Although, in general, data can be transcribed only as much as needed, in this case, the interviews were entirely transcribed and analysed in detail before continuing further research (Strauss & Corbin, 1990, p. 30–31).

The first part of analysis is called open coding. At this stage of the study, the aim is to discover and name categories, concepts and their properties. The data was divided to small segments: a few words, a sentence, and sometimes several sentences. The segments were compared constantly and questions were asked about the nature of the responses and what they represented. In the beginning, about 20 preliminary concepts were named. The names of concepts and categories should be able to describe the phenomenon at a more abstract level. This is called conceptualizing (Glaser, 1992, p. 38). There were also certain indicators that helped in grouping the concepts and discovering the first categories. Properties describe the concept or category at a conceptual level and dimensions express the variation of each property. (Strauss & Corbin, 1990, p. 62–72.)

Results

The analysis of the perceptual processes category is described and discussed in this article. Perceptual processes were one of the first categories that arose from the data. The participants described how they searched for information that was needed in craft making. They report what they had seen, heard, felt, thought and reacted to in these perceptions. However, it seemed difficult to group these perceptions based on what sense the participants had used. Therefore, it was discovered that the category of perceptual processes has three common properties that varied dimensionally. These properties were named *activity*, *position*, and *function*.

First, activity describes how the students used their senses that varied from *passive* to *active*. This was the first property and dimension of a category discovered. In other words, the way of perceiving in craft-art can be both active and passive.

The active perceptions include using several senses, moving the body and touching the material. It is typical that some change in the shape or quality of the material function is an indicator of active perceptions. Passive perceptions are mostly visual or auditory. The participants are passive receivers of information or observe the actions of others. The next example concerns one participant's experience of felting which has been coded as an active one. She stated, "Well, of course, when you felt, yes, you can feel it under your hand, how the wool starts to move. If it is not properly felted, it just moves like ' fiuu' . . . And then, if it is felted enough, it doesn`t move anywhere."

The perceptual processes can also have different functions. A function can vary from *formal* to *informal*. It is possible to recognize the function of a perception by asking: Why did a craft-maker perceive this? What is the purpose of this perception? The formal perceptions are mostly based on the common rules of craft making. Informal perceptions mainly serve the craft-maker's own conclusions and thinking. The idea of function helped to name several concepts within the category of perceptual

processes. These concepts were found: *imitative, evaluative, anticipative, experimental, temporal, bodily* and *emotional perceptions.*

During further analysis, it became obvious that the perceptual processes are also either *internal* or *external*. This means that the objects of perceptual process can be located both inside and outside the human body. This property of the category was named as *position*. The concepts that have clearly external position are imitative, anticipative and experimental perceptions. The bodily perceptions are mostly internal. The evaluative, temporal and emotional perceptions can have an object either outside or inside the body.

Imitative perceptions were mostly visual ones. The students described what they had seen and what objects looked like. It became obvious that the function of these visual perceptions was to look for a way to manage in a new situation, to have formal information about the rules of craft making. Imitative perceptions are passive rather than active in nature. The position of imitative perception is external and the function obviously formal. In this example, the student reported her first experience of felting with a needle: "I just watched to see how the work would turn out. Then someone next to me felted and there were some ready samples on the table and I could see what they looked like". She describes her methods of observing the situation.

While Imitative perceptions can be more passive, evaluative perceptions can appear more active. They were separated from the other perceptions because they were connected with the evaluation of the result, of the method, of the skill of the makers, or of the working situation. Therefore, the positions of these perceptions can be both internal and external and the activity can vary. The participants discussed whether their work succeeded or they described various qualities of their products.

- This looks like it is almost solid
- That became a really gruesome looking piece.
- Yeah, a kind of psychedelic flower. I don't know what is it.
- There was a bit of a hassle.
- I told you that if we felt with a lot of water, we will always succeed.
- I don't know. I am not that good at this.
- Well, for once everybody is there working; they are designing together . . . It is peaceful.

Anticipative perceptions were not based on any specific sense. The connecting factor was that these perceptions facilitate control of forthcoming events; they anticipate. Consequently, the anticipative perceptions are more active than passive by nature. The following examples of the anticipating perceptions took place in a situation where students felted together with a roll and I observed them. The sheet of wool was wrapped over a big tube, wetted with water and soap solution and rolled on the table.

- This (the roll) will move anyway: let's shift it that way.
- We´ll run out of this mush (soap and water) soon, before we will finish this.

The first participant does not express how she arrived at this perception about the forthcoming movement of the roll. Because of this perception, she proposes an action to the others. The other participant sees an inconsistency between the amount of "mush" and dry wool. The result was probably a conclusion that it was necessary to make more "mush", soap and water solution.

Experimental perceptions are active perceptions that require several senses, body movements and physical contact with the material. These actions occurred regularly in the data. The position of perception is clearly external. Usually students perceived the material changing somehow because of their own action. The next example describes how a student knew when the wool started to felt: "Well, it becomes thick and you can't tear it into pieces and it holds tight in the shape you have made."

Emotional perceptions include many perceptions of individual emotions during the making of craft. In more detail, these perceptions can concern *mood* or *motivation* towards the act of making. The participants described *pleasantness* of their experiences during craft making. They noted that the craft making was either *fun* or *boring*. The position of these perceptions is usually internal, but in some cases, the experience is also described in terms of the *atmosphere* in the group.

Temporal perceptions concern impressions about the course of time or the *duration* of some stage of the craft process. In the data, there were a few cases when a craft-maker experienced a stage of craft making to take a long time or progress very slowly. Therefore, the craft-makers became bored or unmotivated. In conclusion, it seems that the temporal perceptions can be closely related to emotional perceptions.

Bodily perceptions are physical sensations that the craft making causes. The human body knows how craft making feels. These perceptions are mostly internal by nature. Furthermore, they seem to be related to emotional perceptions. When participants described their bodily sensations, they often reported some emotion in the same context. Similar to emotional perceptions, bodily perceptions varied from pleasant to unpleasant. The unpleasant perceptions were much more common in the data; they consisted of physical pain, fatigue and irritation from the materials.

The next example includes emotional, temporal and bodily perceptions.

- Did you feel the rolling as somehow unpleasant?
- Yes a little, bit by bit in the final stage . . . all parts began to go numb when we had to stay in the same stance there.
- So, what was the craft work like otherwise?
- It was quite ok; it was nice to be in the group there; alone it would have been even more painful, but rather monotonous in a way. I wouldn't (make) a piece that big now, but if I had to, I'd rather felt with water and soap by hand. Well, it was really boring.
- Mmm, but it looked like you were having fun.
- (Laughing) Well, in a way it was fun; in the group it was quite fun because others were suffering too . . .

To summarize, the category of perceptual processes has three properties: Activity, function and position. These properties also comprise all the seven concepts discovered: Imitative, evaluative, anticipative, experimental, temporal, bodily and emotional perceptions. In addition, there are four concepts that have properties and dimensions of their own. The dimensions of evaluative perceptions are the success and difficulty of the craft. Temporal perceptions vary between short and long duration or rapid and slow pace. Bodily perceptions can vary between pleasant and unpleasant. The concept of emotional perceptions has five dimensions of its own: Pleasantness, mood, enjoyment, motivation, and atmosphere.

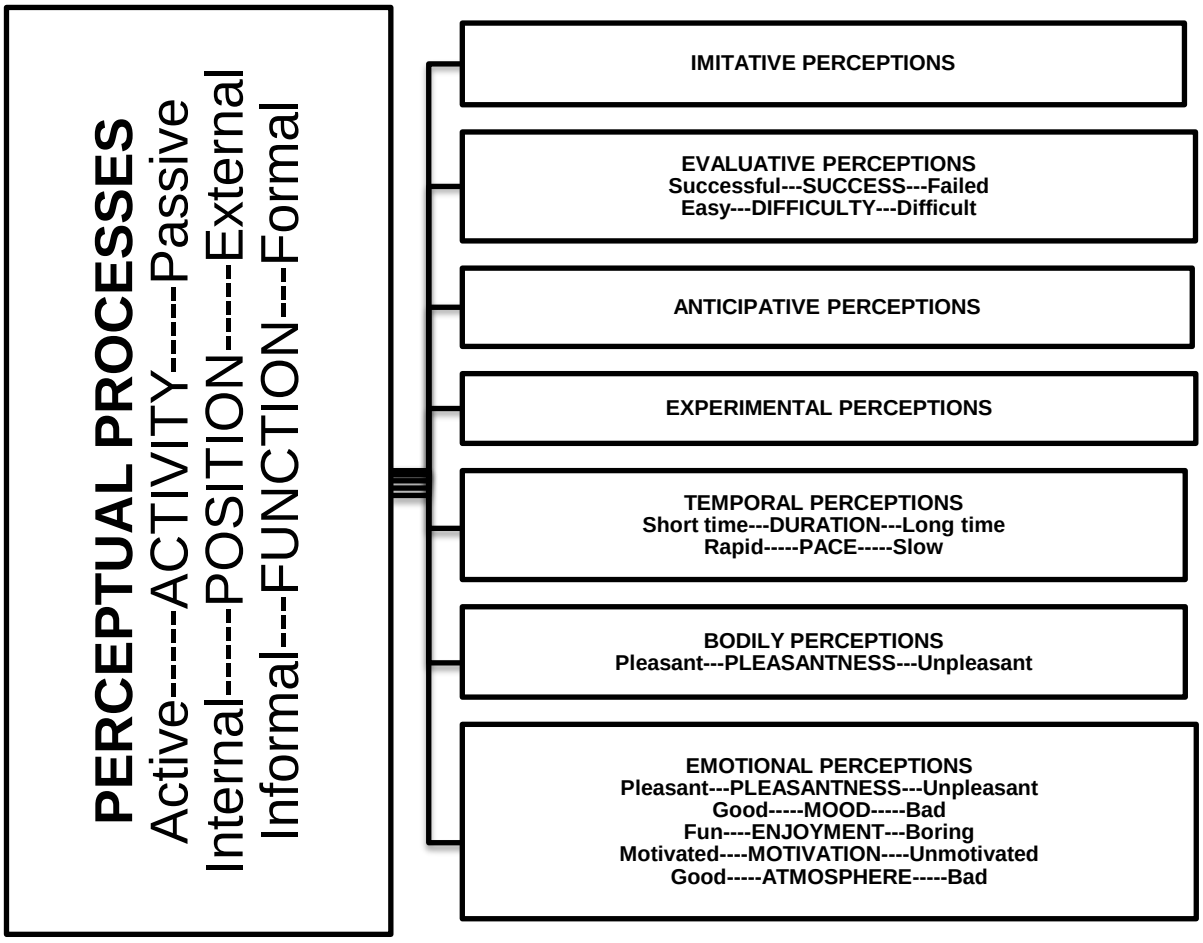

Figure 1: Concepts, properties and dimensions of the subcategory of perceptual processes

Theoretical connections

Knowledge in craft-art

The central question of this study is what kind of knowledge is constructed by perceptual processes in craft-art. The knowledge is here understood as a versatile concept including explicit and implicit, formal and informal forms of knowledge. It is not seen as something that we either have or do not have. Knowledge cannot be separated from an individual's personality; in other words, no human personality can exist separately from his or her knowledge (Bereiter & Scardamalia, 1993, p. 45).

The typology of personal knowledge as described by Bereiter and Scardamalia (1993) and Bereiter (2004) was found useful in understanding the nature of knowledge that craft-art students seem to construct through perceptual processes. *Formal knowledge* is the most recognizable form of knowledge; facts and principles. *Declarative knowledge* (knowing about) manifests itself in explanations and justifications. Bereiter (2004, p. 137) has renamed it *statable knowledge*. It can be put into some explicit form. *Procedural knowledge* (knowing how) manifests in performance. Bereiter (2004, p. 143) calls this type of knowledge *skill*. Skill consists of two parts: The cognitive part is knowing how and the subcognitive part is one that can be improved only by practising. There is knowledge that is possible to construct only by making (see also Venkula, 2005, p. 36). In this study, the data showed that the formal type of knowledge was constructed only by imitative perceptions.

Further, there are five hidden types of knowledge that also play a major role in expertise and in craft making.

Informal knowledge consists of experiences that individuals deal with in daily life and recollect in actual instances of experience. It is something that can be called common sense, but it is more developed and influenced by formal knowledge. Bereiter (2004, p. 138–140) writes about implicit understanding, which is very much the same as informal knowledge. It is unstated or tacit that people cannot easily tell the origin of this kind of knowledge. It is also substantially based on sensory perceptions that have been experienced. In craft-art, informal knowledge seemed to be constructed at least by anticipative, evaluative and experimental perceptions. *Episodic knowledge* (Bereiter 2004, p. 140–141) consists of memories of different episodes and experiences in everyday life. The knowledge that is remembered as episodes can be utilized in new situations. The data of this study showed that it is characteristic of craft-art students to understand their experiences of craft making as episodes and incidents. The knowledge in craft making seems to have some temporal dimension. *Impressionistic knowledge* (Bereiter, 2004, p. 141–143) is intuitive emotional knowledge based on impressions. The concept of emotional perception found in this study is closely related to this. Feelings are seen as an essential part of knowledge. One function of impressionistic knowledge is to provide the basis for practical and theoretical judgments. The craft-art process often proceeds very intuitively: A craft-maker also relies on his or her emotions and impressions. *Self-regulative knowledge* (Bereiter & Scardamalia, 1993, p. 48–49) is knowledge about self-control in certain situations. It can be defined as self-knowledge relevant to performance in some domain. Self-regulatory knowledge controls the application of other knowledge. This feature refers to the concept of metacognition. Bereiter (2004, p. 145–147) sees self-regulative knowledge from a wider perspective when it also pertains to collective activity. He calls this type of knowledge *Regulative knowledge*. The data include several indications of individual perceptions and the social atmosphere in a group (Bereiter & Scardamalia, 1993, p. 43–61).

In terms of regulative knowledge, it is interesting to note that Syrjäläinen and Haverinen (2008, 2012) described action in craft and home economics lessons at school by van Manen and Li's (2002) modalities of *pathic knowing*, which is non-cognitive, perceptual and intuitive knowing. Pathic refers to the words sympathetic, empathic or telepathic. There is some similarity between this description and the conceptions found in this study. *Actional knowing* (van Manen & Li, 2002) is connected to the act of making as a holistic experience. It provides the experience of being able and includes the element of pleasure. Anticipative, evaluative and experimental perceptions in craft-art could probably be a source of actional knowing.

Temporal knowing (van Manen & Li, 2002) is a subjective experience of time and accomplishment. The results of this study also imply that a temporal element is somehow present in craft making because a craft-process has a starting and ending point. In the data, the temporal perceptions often concerned the slowness of the craft making and the resulting experiences of monotony. These perceptions have a negative tone and are closely connected to the emotional perceptions of becoming bored with craft making.

In *corporeal knowing* (van Manen & Li, 2002) students receive immediate and constant sensations from environment, materials, tools, the classroom, and other people. The concept of bodily perceptions seems to represent the same phenomenon. These perceptions include all sensations of the body that are caused by the activity of craft making.

Table 1 demonstrates a systematic study of the nature of the perceptual processes (see Strauss & Corbin, 1990, p. 207). Thus, it is possible to understand the conditions where these perceptual processes and their properties and dimensions occur and search for connections to pre-existing concepts. In the first and second column, the senses the participants used and the objects of each type of perception are presented. The functions and consequences of every perceptual process are described in the fourth and fifth columns. Knowledge is presented by the typology of Bereiter and Scardamalia (1993) and Bereiter (2004). The last column outlines the connection to the concept of pathic knowing by van Manen and Li (2002).

Table 1: Concept characteristics

Perceptual process	Senses	Objects	Function	Consequence	Knowledge	Pathic knowing
Imitative	Visual	Others' actions , models	To imitate, to model on, to manage	To get formal information, to manage in new situations	Formal, declarative, procedural	
Anticipative	Visual, tactual, haptic	Own action, material	To control forthcoming events	Conclusions, decisions, direct the making	Informal, impressionistic	Actional
Evaluative	Visual, haptic, tactual	Own action, product, own abilities	To evaluate the internal and external results	Awareness of one's skills and personal way of making	Informal, impressionistic, regulative, self-regulative	Actional
Experimental	Tactual, haptic, visual	Own action, changes in material	To make one's own conclusions and ideas	Experience, create images	Informal, episodic, self-regulative,	Actional
Emotional	Internal senses	Own mood and emotions, atmosphere in a group	To control motivation, be conscious of own emotions	Awareness of one's motivation and mood	Impressionistic, self-regulative, regulative	
Bodily	Internal senses	Pain, strain, tiredness,	To warn, control motivation	Awareness of one's body	Self-regulative, impressionistic	Corporeal
Temporal	Internal senses	Duration of making, own mood and emotions	Control motivation and emotions	Awareness of one's emotions and motivation	Self-regulative, impressionistic, Episodic	Temporal

Craft-art as a perceptual process

"Craft is one way to perceive and exist", said one of the participants in Seija Karppinen's craft-art research (2001, p. 90). In the BEA system, one objective is to become aware of individual sensory experiences and learn skilful perceiving. An experience of meaningfulness originates from the craft making process and the valuable, handmade artefacts. Craft making is the most profound bond between a human being and the world (Venkula, 2005, p. 40). Kojonkoski-Rännäli (1995, p. 11, 50–55) writes about the human basic intention which craft making is considered. According to my interpretation, craft making is meaningful action by nature; it does not necessarily need any external justification (see Karppinen, 2001, 2005). Perception links people to their environment and gives the feeling of direct contact with the outside world. Contact with the external world is always mediated by the perceptual experience because there is no other way to verify the correspondence of perceptual experience and the object of perception than other perceptual experiences (Gertler, 2012, p. 15). In a physiological sense, perception is also always an indirect impression or reflection of the environment that is the transformation of electrical signals into conscious experience (Goldstein, 2002, p. 72). From the phenomenological point of view, the human body and perception are inseparable (Klemola, 2004; Merleau-Ponty, 2002). Neisser (1980, p. 29–31) writes that sensory perceptions provide information about both the environment and the perceiver. For example, haptic perceptions in craft give information about a form or a sense of the material and movements of the hands. In this study, the concepts of the perceptual processes category can vary from external to internal. This expresses the characteristic of perception in craft making to have a position either inside or outside the body.

The body is simultaneously an instrument and an object of perceiving. According to Klemola (2004, p. 60–61), a human being can observe his or her body as both a subject and an object. The human body can touch and be touched. Goldstein (2002, p. 451–452) calls this phenomenon active and passive touch. In active touch, the person controls the touch stimulation and the passive touch occurs when a person only receives stimulation. This phenomenon is also present in all craft making. Thus, it is obvious why the dimension of active and passive perceptions was found in the data of this study (see also Anttila, 1999, p. 36–37).

In the concept model of craft-art, (Karppinen, 2001, 2005, 2008) perceiving is the action that has a connection to all the core concepts of craft-art: inspiration, initiation and appearance. Perceptions of the world function as an origin of inspiration. Sometimes the craft making itself inspires. The data included a few very interesting descriptions of sensory experiences that had provided a rich image or idea of a product during the practice of the technique. Initiation requires activity. Perception in craft-art seemed to be more active than passive in nature. Craft making needs the activity of a body and especially the movements of the hands, but the activity of the mind is also essential in processing the perceptions. Appearance means that both the external and internal results are exposed to the evaluation of the others. The evaluative aspect already appears on the perceptual level of craft making. The evaluative perceptions can be focused on the process of craft-art, the product, the skills of the maker and the action in the group.

Klemola (2004, p. 96–110) writes about practising a movement: The basic exercise is imitation and repetition. Imitation is an intentional act. There usually is a model that the teacher demonstrates. By observing, a student can use the model to visualize the movement. By repeating the movement, a student can try to find a balance between this visual image of the movement and a proprioseptic (sensory experience inside the body) experience of the movement. Klemola calls this phenomenon external and internal control of movement. The same phenomenon seems to occur in craft. In this study, imitative perceptions concerned the visual model given by a teacher or other students. The

experiences that could be called proprioseptic occurred among the anticipative, experimental and bodily perceptions.

To summarize, perceptual processes play an essential role in the craft-art process. Because of this study, seven concepts were discovered that describe the qualities of perceptual processes in craft-art on a conceptual level. The concepts have several properties and dimensions. The common properties for all concepts are activity, position and function. The names of the properties indicate that perceiving is a rather active process, that the whole body takes part in it, and that it has several purposes and consequences. The object of the perceptual processes in craft-art is the holistic experience of the situation, the material surroundings and relations to others and oneself. Perceiving seems to also have a temporal dimension in craft making. Bodily and emotional perceptions are closely related to each other. The consequences of perceiving in craft-art are to construct formal and informal knowledge, to manage new situations, direct the craft making process, create images, to draw conclusion or make decisions in the course of process, and increase self-awareness of skills, emotions, motivation, and the body.

Conclusions

The GT method requires theoretical sensitivity that refers to a researcher's awareness and ability to see and find nuances in the data (Strauss & Corbin, 1990, p. 41–42). The well-constructed theory meets four criteria: fit, work, relevance and modifiability (Glaser, 1992, p. 15). The procedures of the study are pursued to explicate sufficiently so that readers are able to evaluate the validity of the analysis. At this stage of the study, it is possible to evaluate the quality of the concepts found and their properties' dimensional variety. The concepts are grounded in the data; they describe well the practice of craft-art and correspondences are found with many pre-existing concepts. Further, because of the many dimensions of the properties, the concepts can describe numerous, varying situations. The time and place of the literature review have been discussed in grounded theory study (e.g., Dunne, 2011). In this case, it was found useful and interesting to compare and reflect on the results against existing theories before proceeding with the analysis.

Despite these efforts, the data of the study is not yet adequate. It is necessary to gather more data of a different kind for further analysis. The next stage of analysing perceptual processes is axial coding. The data will be organized in a new way and there will be an attempt to find connections between the categories and concepts. The next step of the whole research project is to gather different data and to approach the perceptual processes from some more focused perspective. The students seemed to direct their perceptions in making craft-art towards the material world, processes of making, the maker herself or himself and other members of the group. One question was raised about what is special in the self-perception in craft making. Furthermore, it is fascinating that a group is able to construct its own knowledge through perceptions that are individually experienced, but shared through dialogue during the making. A further question could explore how this knowledge affects or guides the process of making.

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