Children Designing a Soft Toy.

An LCE model as an application of the experiential learning during the holistic craft process

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In a holistic craft process, the same person designs a visual and technical appearance, produces the design with craft materials and technologies, makes necessary changes to the design during its production and finally assesses the process and the finished product. Similarly, in the educational context, students should make craft products starting with the design process. These kinds of designing and hands-on activities nurture students' creativity and problem-solving skills and offer them an opportunity to test their ideas and see them realised. Testing and further developing pedagogical approaches to holistic craft is important from the perspective of the renewal of the national core curriculum (2016) in Finland, which emphasises holistic approaches and the integration of different content areas. This study presents an experiential learning model of combining literature education, craft education and ethic-moral education. David Kolb's model of experiential learning gives a solid and systematic theoretical base for this LCE model (one combining Literature, Craft and Ethic-moral education). The teaching experiment is implemented as a craft process supported with first-grader children's literature and activities based on a story. It seems that children can derive benefit from literature and activities during craft making process. In addition, referencing literature enables the teacher to combine the craft process with multiple learning targets, fostering both ethical and content skills. We present the LCE model both in the light of an experiential learning model and the pragmatic implementations it gives rise to. According to our experiments, experiential learning can be meaningfully applied to the holistic craft process and craft education. Furthermore, the LCE model helps children to commit to holistic craft by nurturing a personal attachment.

Keywords: holistic craft, experiential learning, literature education, LCE model

Introduction

The national core curriculum for basic education in Finland is to be revamped by the end of 2016. The educational approach is moving from teacher-orientated to child-centred learning, where children are treated as active participants in the process of learning and can realise their own ideas and creativity while achieving set learning goals. This new core curriculum aims to increase children's access to learning skills and learning methods while they are at school. The Finnish Board of Education has also stated it requires a holistic approach to be adopted. The aim of the holistic approach is to offer the students holistic learning experiences, to take into account the learners' interest in the subject, to enable learners to adopt an active role, and to expand the school environment. Application of the holistic approach is a key goal in all learning, and an integral part of the draft Finnish national curriculum for basic education that aims to offer students a complete and comprehensive learning experience. The objectives of the holistic approach are diverse: It is intended to increase the learner's subject area knowledge and understanding, but it may also appear such as improving learners' attitudes, logical thinking, evaluation methods, coherent thinking and artistic thinking. (FNBE 2014)

From the perspective of craft education, this requires new pedagogical thinking. Children should be encouraged to be self-organisational and creative when implementing their designs of craft products. Craft teaching should include the themes from the students' worldview and their experiences. The craft design and production processes examined in the current research are based on the concept of holistic craft that allows students to express themselves and to be innovative during the problem-solving process. The current Finnish curriculum (see e.g. FNBE 2004) already emphasises the significance of the holistic craft process in teaching. During that process, teachers must not only tolerate the uncertainty inherent in the progress of the students' craft process, but also need to be willing and prepared for change and challenges (see e.g. Johansson, 2006). The teacher should also have the capability to control and guide the child's process of holistic craft making and be able to offer creative solutions to support reflection and problem solving (Starko, 2010). Craft teachers face various challenges during the holistic craft process including how to encourage children to be creative and present their own ideas while still meeting learning targets; and how to direct the learning process while each student is producing a different craft product. A review of several research results suggests that craft teaching still emphasises the learning of traditional techniques and the making of products based on ready-made models (Karppinen, 2008). For this reason, it is imperative to invent and test new ways to support craft teachers' efforts to move their teaching from that appropriate to ordinary crafts to a form aligned with holistic crafts (see e.g. Pöllänen, 2009).

In this study, the holistic craft process is supported by a joint starting point and has been implemented to support students and the teacher based on David Kolb's (1984) model of experiential learning. Experiential learning means connecting children's experiences to learning objects, thus enhancing the adaptation of new skills and knowledge. This kind of action can be seen as a holistic approach. Experiential learning theories have been connected to holistic craft process to some degree (see e.g. Pöllänen, 2011; Yliverronen, 2014), but the development of models of experiential learning and craft has not advanced noticeably.

In our earlier studies, we were able to combine a literature-based semiotic working process and a craft process with pre-school students. The semiotic working process is a literature-based experiential teaching method that has been developed specifically for reading fiction, and serves as a tool for ethic-moral growth (Rönkkö & Aerila, 2013). We have now combined the craft process and literature to create a model in which the elements of the creative process connected to school assignments were divided into obligatory, voluntary and free elements. This model helps children and teachers to plan and assess school tasks so they are more child-centred and problem-based (Aerila & Rönkkö, 2013). The current research presents a study that developed these experiments further in order to formulate a model for craft teachers to implement based on an experiential and holistic approach. The aim of the study is to give an example of experiential learning during holistic craft process. The development of the model was actioned by integrating crafts with literature and literature-based tasks. In this study, we are interested in the following questions:

> How can the experiential learning theory support the brainstorming during the holistic craft process?
>
> How can the experiential learning theory support the designing during the holistic craft process?
>
> What kind of benefits the LCE model has to offer?

Kolb's experiential learning process

Experiential learning means a sense-making process involving the active engagement between the inner world of the person and the outer world of the environment. Experiential learning is a process supporting all forms of learning because it represents the transformation of most new and significant experiences and incorporates them into a broader conceptual framework. During experiential learning, the insight gained through the conscious or unconscious internalisation of personal or observed experiences builds upon the subject's past experience or knowledge. Experiential learning enables the learner, through an active sense-making process, to engage with inner world of one´s own and the outer world of the environment. (Beard & Wilson, 2006)

The foundation of all learning lies in the interaction between the self and the external environment, in other words, the experience (Beard & Wilson, 2006). Learning is a process where knowledge is created through the transformation of experience (Kolb, 1984). Experiencing something is a linking process between action and thought. The link between experience and learning is a strong one, and has been described by a number of researchers (Beard & Wilson, 2006). Experience and learning are closely intertwined, and in many contexts mean the same thing. Learning builds on and proceeds from experience. Learning can only occur if the experience of the learner is engaged at some level. External influences act to transform the experience of the learner (Boyd, Cohen & Walker, 1993). All learning experiences are personal and unique to the individual, because each experience is influenced by the unique past of the learner. Even if a group of learners receive the same stimuli, they will not necessarily respond to them in the same way. (Beard & Wilson, 2006)

Experiential learning is likely to occur when students are required to engage in activity, creativity and problem solving. Learning takes place by reflecting on experiences that have occurred in either fictional or social reality (Kolb, 1984). In order to help people learn from experience, learning providers often use a combination of activities and drama, sculpting, role-play, arts and crafts, stories and metaphors. Such methods encourage learners to express thoughts and ideas on their experiences. The degree to which these activities are perceived as real or relevant can have a significant effect on the learning experience. While levels of reality can be reduced or increased to influence learning, making the right choices requires a clear understanding of the processes involved. If the learners cannot experience the real thing, they can experience something that is perceived as real in a physical or emotional sense. (Beard & Wilson, 2006)

Activities using storytelling, art and other forms of manipulated reality can be perceived as simulated reality. The extent to which the learning environment is real, natural or simulated influences the learning potential (Beard & Wilson, 2006). Stories and other art forms are basic tools invented by human beings to promote understanding. They can be used to generate ideas, or to establish morality and values (Collison & Mackenzie, 1999). The manipulation of reality can help people to analyse and change their views of themselves, and can alter their levels of self-esteem. For example, stories solidify our memories and everyone looks for opportunities to tell stories in one way or another (Schank, 1992).

Kolb's theory of experiential learning is the best-known of the experiential learning theories. It is a four-stage cycle that proceeds cyclically. Knowledge results from the combination of understanding and transformational experience. The objective of experiential learning is a holistic learning process, the learner's personal growth, and increased self-understanding. Learning the process to acquire information, rather than just remembering it, is essential. The experience is analysed from as many points of view as possible (Kolb, 1984; see e.g. Figure 1).

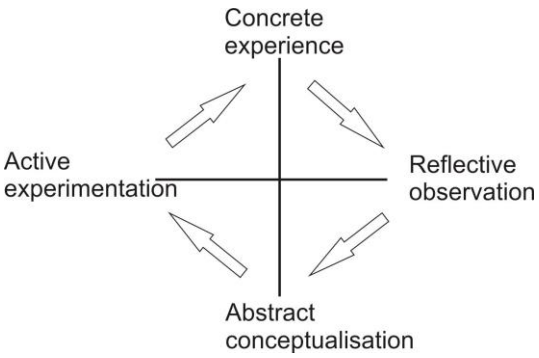

Figure 1. Experiential Learning Theory (Kolb, 1984)

Kolb's theory of experiential learning can be applied in many ways. For example, during the first phase, the learner experiences an activity, like an exhibition, listening to music, or dancing. The second phase occurs when the learner reflects on the experience s/he has gone through. In the third phase, the learner forms a concept or constructs a generalisation as a result of what s/he has observed. In the fourth phase, the learner tests a model, design or plan for the following experience.

In this study we present an application of the experiential learning theory called LCE-model. LCE is an abbreviation of the words Literature, Craft and Ethic-moral education.

The holistic craft process

The holistic craft process means that all the phases of the craft process are conducted by the same person (Kojonkoski-Rännäli, 1995). In other words, the maker is responsible for developing ideas, designing, preparing tools and materials, completing the product, and finally for assessing the artefact created as a final outcome of the process (Kojonkoski-Rännäli, 1995; Pöllänen 2009). All the phases of holistic craft can be established in the craft process of students of all ages, though teachers will usually offer models for students to copy (Rönkkö & Aerila, 2013; Yliverronen, 2014). The new national core curriculum for basic education supports even less use of ready-made models and materials and encourages crafts to be based on a holistic craft approach (FNBE 2014).

An ordinary craft process may be distinguished from a holistic craft process by the role and significance of the visual and technological designing. Ordinarily, the craft maker would be content to follow someone else's plan and adapt a ready-made design to fit the desired purpose. Typically, the craft maker aims to produce a certain product using certain techniques (Kojonkoski-Rännäli, 1995). Ordinary craftwork can be significant to the maker because it satisfies the need for a certain product, develops their craft skills, or has some therapeutic value (Pöllänen, 2011). In contrast, holistic craft work benefits the craft maker by developing a range of skills, such as cognitive skills (e.g., problem-solving skills), physical skills (e.g., hand-eye coordination), spatial skills (e.g., dexterity) and cultural skills (e.g., cultural sensitivity) (Kojonkoski-Rännäli, 1995).

The first phase of the holistic craft making process involves brainstorming to generate ideas and designs. Early in the craft process, the maker looks for stimuli and experiences to incorporate into the craft product. Sometimes brainstorming ideas needs to be supported by tangible or simulated experiences. These experiences can be provided in various ways such as through pictures, drawings, examples, visits, trips, memories, various artistic experiences (music, literature, movies etc.), learning of craft techniques, materials and tools. It might also be helpful to illustrate the ideas generated by brainstorming with different kinds of prototype constructions (Pöllänen, 2009). The ideas resulting

from brainstorming will provide the craft maker with the cues to commence designing the craft product.

During the design phase, the user defines the main purpose, properties and the maintenance of the artefact, but also requires specific information for the production of the craft product (Seitamaa-Hakkarainen, 2000). To turn ideas into a viable craft product, the maker must obtain information about craft techniques, materials and tools by asking, experimenting and examining. The visual and technical design leads to the aesthetic and functional values of the product being specified (Kojonkoski-Rännäli, 1995). During the design phase, students often need stimuli, help, support and feedback from the teacher. Sometimes setting limitations in the design phase of the artefact can help the student to refine the idea into a feasible design (Rönkkö & Aerila, 2013). This visual and technical design is the most important part of the holistic craft process because research, experimentation, problem solving, and reflecting on one's actions are essential parts of all creative processes (Kojonkoski-Rännäli, 1995; Rönkkö, 2011). The brainstorming and designing phases improve creativity, spatial perception, the application of craft techniques, and the use of materials and tools (FNBE 2004).

In the production phase, the craft maker implements the design. If the design is well thought out, sufficiently detailed, and appropriately documented, it will support and accelerate the production phase. While implementing the design, the maker thinks about the different phases of the production process and plans technological solutions involving materials, structure and the details of production (Seitamaa-Hakkarainen, 2000). Technical skills will be applied during the production stage. The visual and technological design may change during the production process when existing expertise is connected to information and skills being acquired during the process. The final qualities of the craft product (aesthetic character, usability and appearance) are established at the production stage, and may be linked to the personality of the maker. Strong emotions and personal features are usually connected to the finished artefacts (Kojonkoski-Rännäli, 1995). A strong personal attachment to products may indicate experiential learning (Pöllänen, 2009).

The last phase of the holistic craft process is the assessment. The target of the assessment phase is to evaluate and reflect on the whole process from brainstorming to visual and technological designing and production and the final product. The assessment includes reflection on the solutions applied and possibly a return to previously planned alternatives (Kojonkoski-Rännäli, 1995). Positive feedback and encouragement received from the teacher and other students are important parts of the reflection phase in craft teaching. A teacher can vary the evaluation methods used from self-assessment to group-assessment, or they might for example arrange an exhibition of their students' work. It should be a natural part of the learning process so that students gain experience of giving and receiving constructive feedback.

Methods

Study context

We started testing the LCE model in an early childhood education group in 2011 and in a pre-school group in 2012. The actual data for this study were collected from a first-grade group in 2013. A total of 48 children participated in our studies, but this study reports the activity of 19 students. The teaching experiment was executed by the authors; they acted as teachers, researchers and observers. The class teacher, school assistants and student teachers helped with data collection and observation.

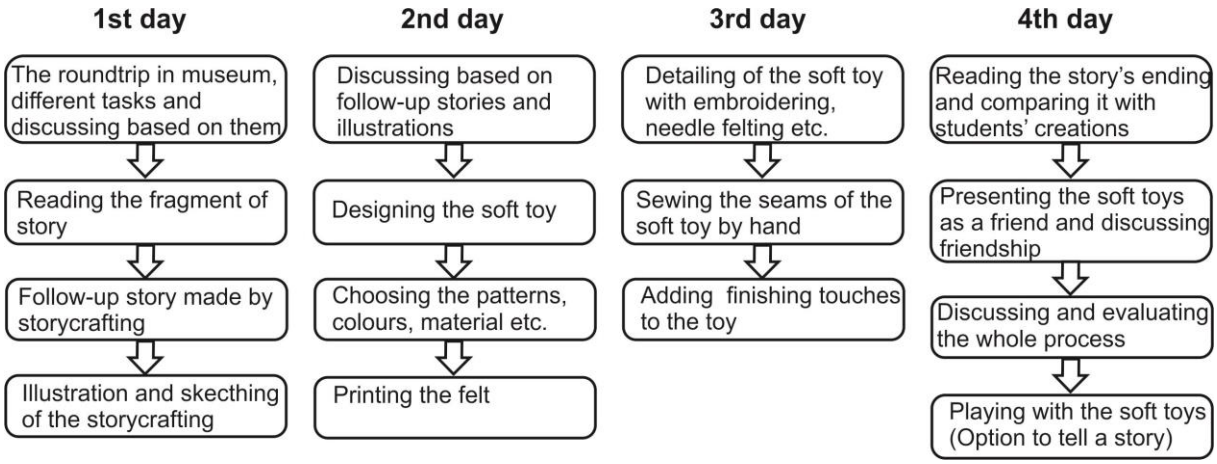

Figure 2. Progress of the teaching module

Our teaching experiment took up about three lessons over four days. The figure 2 shows how the experiment progressed day by day. The planning of the experiment is based on literature on education and the aims of craft production. The aim was to produce a personalised soft toy and practice printing, felting, cutting, and designing a craft product. The choice of young students influenced the decision to delimit the craft task to making a soft toy. The pupils would certainly have the skill to design a product themselves, but in the interests of using the available time wisely, it seemed a sensible solution to set the required craft outcome.

Study data and data analysis

The data consist of the products made by the children during the holistic craft process, and the follow-up stories, drawings based on the stories, craft designs and craft products. The data were used to examine the progression of the children's craft processes and the connection between Kolb's experiential learning model and the design and manufacture of a craft product. The research data is supported by interviews conducted with the children after the completion of the craft process. Those interviews were intended to examine the child's own assessment of his/her craft products, as well as the whole process of designing and making of the product. All the activity hours were videotaped. That video material was only collected to serve as a reminder of the children's activities and actions (See e.g. Rönkkö & Aerila, 2013; Aerila & Rönkkö, 2013).

This study represents a case study, which aims to clarify a certain present event or operation in a certain environment, and to use diverse acquired data in many different ways. Case studies are suitable for clarifying the significant structures of the individual actors in which factors cannot be controlled, or where it is impossible to arrange an experimental examination of the relevant causal relationships (Yin 1994). The data were analysed using qualitative content analysis (See e.g. Krippendorff, 2004). Qualitative content analysis is an empirical, methodological, controlled analysis of various kinds of communication, following the rules of content analysis and detailed models. Qualitative content analysis does not require exact quantification (Mayring, 2000). Krippendorff (2004) defines content analysis as a replicable and valid method for making specific inferences from text to other states or properties of its source. The aim of content analysis in this study was to examine if an experiential learning model could be applied to a holistic craft process.

Qualitative content analysis can be used in either an inductive or a deductive way. Both inductive and deductive forms of content analysis involve three main phases: preparation, organisation, and reporting of results (Elo & al., 2014). In our study, the theoretical framework is based on Kolb's

theory of experiential learning and the concept of holistic craft tasks. The experiment was carefully planned in accordance with the supporting theories and the data collected during the experiment were evaluated by comparison it to the theoretical framework. The process ensured the categories formulated prior to the experiment were capable of being revised if necessary.

Results

The first circle of experiential learning as a support for brainstorming

To motivate the children and to help them connect their prior experiences of friendship and things maritime (which were some of the themes of the chosen story), the stirring of schemas was started at a maritime museum. On arrival at the museum, the children found an adventure route leading to a treasure chest containing, among other items, a treasure map, letter, and Will Buckingham's picture book *The Snorgh and the Sailor* (2012). The letter in the chest stated that the end of story had been stolen and the children would have to invent the ending.

The first circle of Kolb's experiential learning model started with a simulated experience generated by the tale of *The Snorgh and the Sailor*. The fictional story of the fortunes of the Snorgh – a grumpy, friendless marsh-dweller – takes place in a marine environment and tells of the Snorgh's adventures after meeting a sailor. The fairy tale deals with friendship, loneliness, and differences and shows how prejudices can be overcome. The main character, the Snorgh, tells the readers on several occasions how he wants to do everything in the same way and how he does not want friends disrupting his life. We believed the story to be well suited to eliciting discussion about empathising with others and accepting differences (Aerila & Rönkkö, 2015).

The first phase of abstract conceptualisation was executed by a literature-based follow-up story, which involves envisioning the continuation of a story. The aim is to write, tell, depict, or act out a text that stylistically and substantively complies with the original story and aims to reflect the author's understanding of how the original story proceeds. The conceptualisation was based on a simulated experience of friendship and diversity and was inspired by the beginning of Buckingham's story. Follow-up stories, like other think-aloud tasks, are a good way to work out how a reader relates to the experiences described in the chosen text (Aerila & Rönkkö, 2015; Grossman, 2001).

The follow-up story was to continue from a turning point in Buckingham's original story. At the beginning of the story, the Snorgh becomes acquainted with a sailor. Just as he gets used to the presence of the sailor, that sailor disappears. The children had to figure out what the Snorgh decides to do and continue the story. Because most of our first-graders could not write themselves, we chose to support the follow-up stories with a variation of the *storycrafting method*. The method involves a child or a group of children acting as the narrator and a *storycrafter* writing the story down word for word (Karlsson, 2009; Children are telling, 2014). Storycrafting is more commonly used to encourage children to tell stories without any stimulus, but we connected storycrafting with follow-up stories. Student teachers from the Department of Teacher Education served as the storycrafters. Before children told their follow-up stories, they reflected their experiences of Buckingham's story by planning the follow-up story with the storycrafter. The first conceptualisation was deepened by adding a sketch to support the follow-up story (See figure 3).

The active experimentation of Kolb's experiential learning model was conducted by presenting the children's drawings and reading the follow-up stories aloud to the other children. The follow-up stories and drawings were compared and used to elicit a discussion on the theme of friendship and diversity (See figure 3).

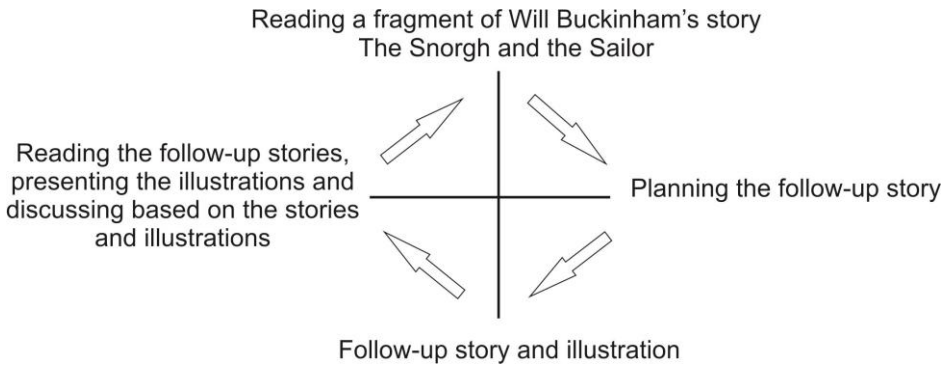

Figure 3. The first circle of the experiential learning process

The starting point of the experiential learning provided the children a personal experience and helped them to connect with prior experiences of friendship and diversity. The first circle of Kolb's experiential learning succeeded in the sense that all the children were able to produce a follow-up story and a drawing to illustrate it. All the follow-up stories differed, indicating that the children connected the story with their prior experience. The stories also shared some common features with Buckingham's fairy tale, indicating that the children had listened to the story attentively and empathised with the characters. The follow-up stories contained details of the concept of friendship and the children developed their understanding of friendship by listening to other children's stories and discussing them. The follow-up story reproduced below and its accompanying illustration is a typical example of the children's abstract conceptualisation (figure 4).

> The Snorgh saw the sailor's ship. He rowed towards it. The Snorgh climbed up there to the sailor's ship. He went next to the sailor. The sailor and the Snorgh began to speak. They began to talk about all kinds of adventures. And they began to play. They played tag. They became friends. (6_Boy, 7 years, 5.3.2013)

The experiential learning theory supports the brainstorming by giving children ideas to implement to their craft product, help them to get focused on the learning targets, and help them to connect the holistic craft process to their lives.

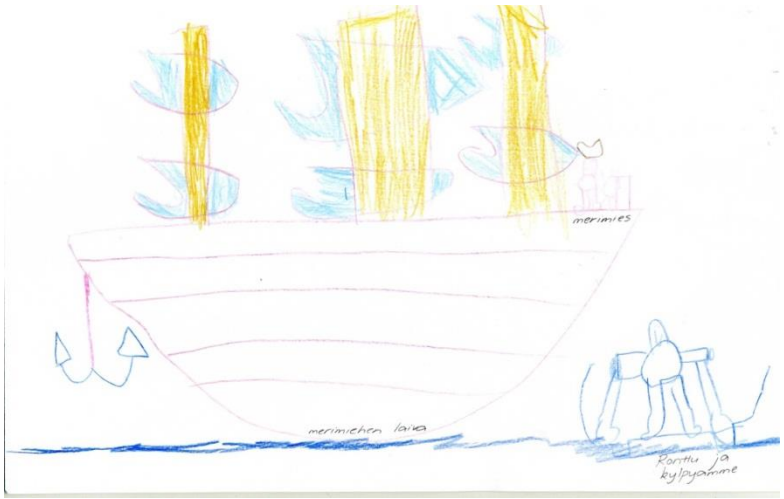

Figure 4. The illustration of the follow-up story

The second circle of experiential learning as a support for the design phase of the holistic craft work

The aim of the second circle of Kolb's experiential learning was to implement the holistic craft process from designing to assessing the finished craft product. The second circle started with the illustrations and the follow-up stories from the first circle. They represented the simulated experience of friendship, which was going to be the starting point of the design for the soft toy friend. The experience was extended by the children reading the follow-up stories, presenting their sketches, and talking about the concept of friendship based on their simulated experiences.

After the group discussion, the children's own stories and illustrations were returned to them and they started the reflective observation phase by sketching a suitable friend for the Snorgh character. These sketches were intended to support the design by defining and clarifying the task, but also to encourage the children to play with different ideas (see e.g. Seitamaa et al. 2012). We directed the design element by providing the children with a selection of shapes, colours and other detailing options.

The abstract conceptualisation was realised in the making of the craft product. The children were instructed to start working on a product when they were satisfied with their design. They all started by independently printing and dyeing the appropriate colour of the base material and stamping the ´skin´ details according to their design. Then, they cut the coloured material to match the shape (oval, square or triangle) of their own design, and began to add detail to it. For the detailing phase, the children were given different material and craft making techniques options that they were allowed to use according to their own vision of the product. Finally, the children sewed the edges and filled the product to their desired thickness with cotton wool (Figure 5). When the soft toy was finished, some children wanted to add clothes and other accessories to their product.

The phase of active experimentation meant presenting the soft toys and assessing the process. The children presented their soft toys both from the perspective of friendship and the design and making of a craft product. To help the children connect with the themes of friendship and diversity, the soft toys were presented as friends of the main character of Buckingham's (2012) fairy tale. The process was assessed by making an individual report and by discussing the whole process as part of the subsequent group discussions. The success of children´s process can also be evaluated by the fact that all the children wanted to tell a new story of the Snorgh and the new friend and most of them wanted to play with the soft toy. It seems clear that they all developed a personal attachment to their craft product (See figure 5).

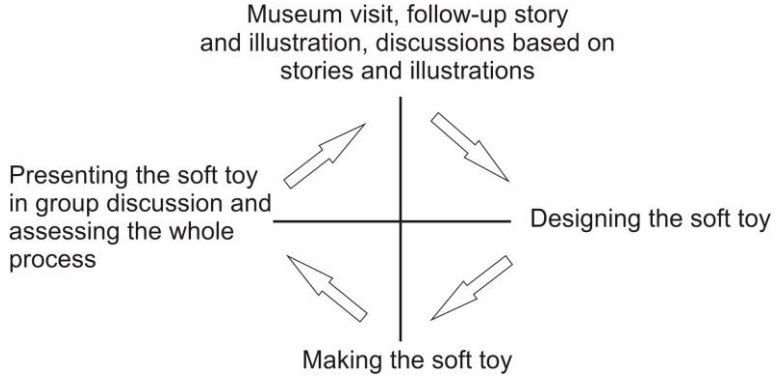

Figure 5. The second circle of the experiential learning process

The children's soft toys were personal, and the process included many craft skills and working methods, even ones not normally required of first-graders. For example, two of boys wanted to learn to knit so they could make a cloak for their soft toys. All the children added their own ideas to the sketches and designs, and this made them eager to present their tasks during the discussion phase.

Each child was proud of their work, and the product inspired the children to add more detail to their toys. In addition, the fictional literature supported the design process of the craft product (Rönkkö & Aerila, 2013). During discussions, the children also spontaneously asked each other questions. Aspects of everyday conversation were used, and the children's understanding of the nature of the fictional literature, making craft products and giving feedback on them, and their understanding of the concept of friendship increased (Grossman, 2001). The following pictures represent the connection between the design plans and the craft product. They also highlight the common and personal features of the craft products.

The children's work aligned with the holistic craft ideal, despite some limitations. In the teaching context, the teacher often has to delimit the properties of the craft product, because the more details the product includes the more time is required to create it. The younger the pupils are, the more they need the teacher's control and for the task to be delimited during the craft process. In this context we succeeded in choosing a motivating product that supported the learning objectives and matched the children's skill levels, and was implemented on schedule (Rönkkö, 2011; Aerila & Rönkkö, 2013).

Figure 6. Friend for Snorgh made by a girl

Figure 7. Friend for Snorgh made by a boy

The experiential learning theory supports the designing by visualizing the idea of the soft toys and helping the children to come up with more personal details.

The experiential LCE model of literature, craft and ethic-moral education as a holistic approach to education

In our experiment, children made soft toys influenced by a piece of literature. The aim of using literature was to support the brainstorming of ideas for the children's designs of a soft toy, and to help them recall their experience of friendship. Ethic-moral education or/and literature education provides the theme, or the phenomenon, for the holistic approach that is studied by students and made concrete through the craft production process. The LCE model is an example of a holistic and integrative approach to craft education. It can be viewed from different perspectives including those of literature, the ethic-moral dilemma, and that of craft education. In our experiment, the cycle of the experiential learning process had two main phases. In the first phase, a personal experience was concretised with the follow-up story. In the second phase, the experience was concretised by designing and making a soft toy. However, the circle can be repeated several times. The following figure (Figure 8) shows how the experiment proceeded and how the holistic craft process was supported by different elements.

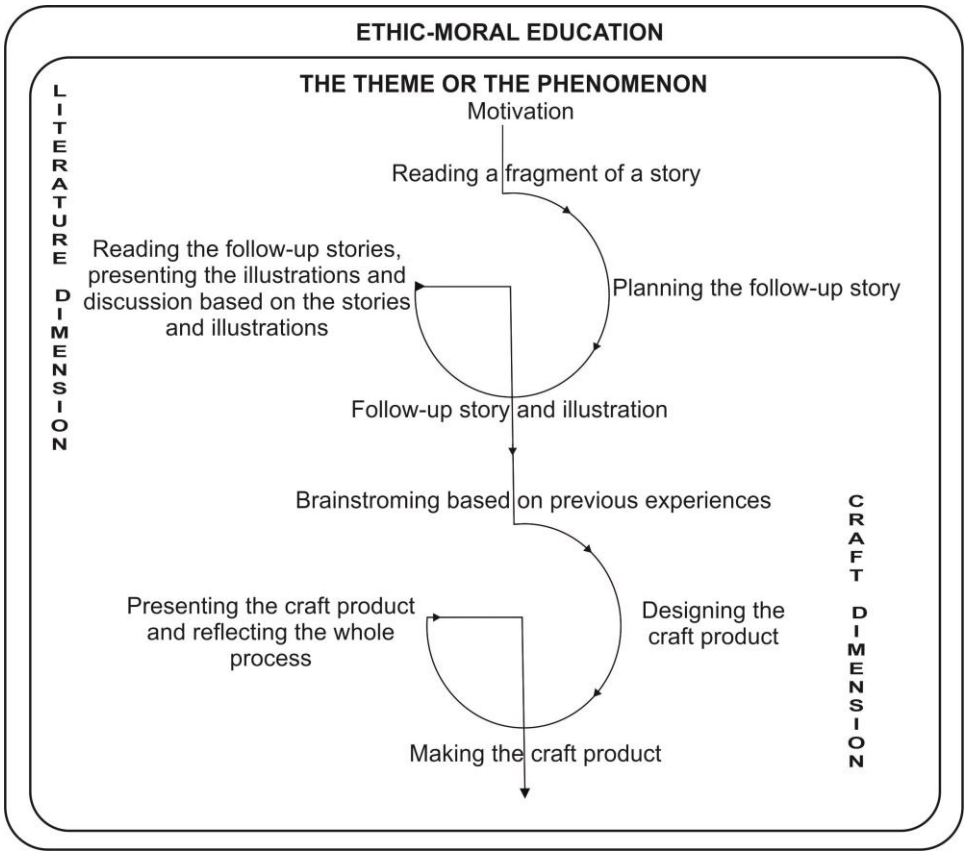

Figure 8. LCE model

From the perspective of literature education, the LCE model supports the activation of prior experiences connected to literature. In addition, the reading and understanding of fiction is supported by concretising the understanding by developing concrete, personal interpretations (the abstract conceptualisation) based on the text. The abstract conceptualisation of literature can be any art-based activity, which helps the students of different ages associate with the text. That might be writing, acting, drawing, or making an artefact, and can be done individually or in a group. This conceptualisation helps the teacher and the children to understand their own interpretation and that of others by making visible the inner thoughts prompted by the fictional tale (Aerila & Rönkkö, 2013).

The utility of the LCE model to ethic-moral education is based on its potential to give a student a change to observe a moral dilemma from a distance to support empathising (Dodson, 2000). The abstract conceptualisations made during the process of experiential learning based on the literature seem to have the effect of distancing the subject from the ethic-moral discussion: it is easier to discuss ethic-moral issues from someone else's perspective. It also seems that the children developed a personal attachment to their craft product: they hugged and talked fondly to their soft toys. It is important to offer the children chances to show empathy and feelings during their school day. It seems that a soft toy with an attendant personal attachment enhances the commitment to an ethic-moral value by concretising it. There are various ways to implement the ethic-moral dimension. It can start from the choice of story, or from the choice of actions and working practices, and might end with the choices of materials for the craft product.

LCE model facilitates holistic craft process by the use of stories and ethic moral themes. Applying the LCE model to the holistic craft process can be especially useful in the context of designing a product because the students are able to examine their experiences and reflect their learning. At the same time the experiential learning process supports students' commitment to the whole process. In this study, the children were allowed to design a craft product that held some significance for them. The reflection emphasises the experiences and emotions that are meaningful to the learner (Pöllänen, 2011). The comprehensiveness of the craft process encourages the maker to commit to the created product and the whole process while experiencing different emotions. The craft product can represent the personality or character traits of the maker and thus craft products they have made themselves are usually important to the maker (Kojonkoski-Rännäli, 1995; Rönkkö, 2011). In this study, students ´put their souls´ into making the product. They enjoyed all the hands-on action, and they were excited by the toys. The making of the soft toy can be considered as the holistic craft process because the children had choice possibilities and they were allowed to carry out their own views. The findings suggest the students developed a personal attachment to learning crafts, and this made them committed and motivated throughout the process.

Discussion

In this study, we tested Kolb's (1984) model of experiential learning in a holistic craft task simulating real life experiences with literature. Literature and stories are ideally suited to experiential learning and as a support for the holistic craft process (see e.g. Beard & Wilson, 2006). The understanding of fiction is primarily a matter of interpretation, so a fictional text may have a different meaning for each person depending on their literacy skills, worldview, environment, motivation and other prior experiences (Grossman, 2001; Langer, 1995). For this reason using literature as the stimulus for designing a craft product means that everyone has a different interpretation as a starting point for the design based on a joint premise. To acquire information about children's interpretations and their role in their craft products, we chose to support the use of literature with follow-up stories and drawings. Children telling their own stories and doing drawings based on literature gives us access to information about the ideas sparked by the literature that children could not consciously verbalise (Aerila & Rönkkö, 2013).

Our teaching experiment repeated Kolb's experiential learning process twice. The first circle emphasised the brainstorming of ideas for the craft product and the second circle concentrated on the design, construction and assessment of that craft product. It seems that by investing in the brainstorming stage and by helping the children to connect the designing of a craft product to their own simulated or actual experiences supports the other stages of the craft process. The experiences and senses activated during the first circle of Kolb's experiential learning process stimulated students'

own memories and created new images in the brainstorming stage. Connecting Kolb's experiential learning to the designing of a craft product enriches and activates the design process. This kind of action can encourage and direct students' design efforts.

Using literature as a supportive tool for the design of craft products and combining the holistic craft process with Kolb's experiential learning may offer a range of benefits for learning. This kind of integrative and holistic learning process can add effectiveness to learning not only by integrating the learning goals of different subjects, but by simultaneously supporting non-content learning objectives like learning to learn skills and ethic-moral growth. Children's literature always invites its readers to consider ethic-moral issues (Lu, 2000; Solomon, 2001). Choosing the target literature carefully permits different issues to be discussed and the children's thoughts to be concretised in the form of craft products and other activities.

Concentrating on a joint subject, the story, enhanced the children's motivation and their enthusiasm, while facilitating group discussions and so enabling the children to learn from others. They liked comparing their own stories, designs and craft products with others, and a common background story gave them a common experience to help connect the individual experiences together. Overall, the children reacted to the entire process with open minds and were enthusiastic during all the stages of the task.

The starting point for the experiential learning and brainstorming can be any simulated or tangible experience, but it seems that a story can be an effective tool. This is because interpreting literature is based on the reader's experience. Devising a follow-up story based on a fragment of a fictional story gave the children a chance to connect their individual experiences to a common experience created by a story. The common experience helped the children to support each other finding ideas for their craft products and designing them. It can also help the teacher to guide the process of designing by helping the children to connect with the task in hand.

It is important to have research-based information on children's activities while they do holistic craft tasks in order to be able to identify the methods and approaches that offer children an appropriate amount of freedom and set of limitations. In this study, the students were first-graders, so the teacher had to set limits to the design and production stages. However, even very young children showed they could use different experiences and tasks to support the process, and that they could benefit from the materials and experiences passed on in the design stage of a craft process. Connecting ethic-moral themes, like friendship or diversity – when supported by relevant literature – to the craft process may contribute to making the craft products of children meaningful and add new functionality too. Our experiment saw children activating their prior experiences of friendship and developing a personal attachment to their craft products.

References

Aerila, J.-A. & Rönkkö, M.-L. (2013). Integrating literature with craft in a learning process with creative elements. *Early Childhood Education Journal* 41(6). doi:10.1007/s10643-013-0626-1

Aerila, J.-A. & Rönkkö, M.-L. (2015). Enjoy and interpret picturebooks in a child-centred way. *Reading Teacher* 68(5), 349–356. doi: 10.1002/trtr.1313

Beard, C. & Wilson, J.P. (2006) *Experiential Learning. A Best Practice Handbook for Educators and Trainers*. Second edition. London, United Kingdom: Kogan Page.

Buckingham, W. (2012). *The Snorgh and the Sailor*. London, United Kingdom: Alison Green Books.

Children are telling. (2014.) Retrieved (28.8.2014) from http://www.edu.helsinki.fi/lapsetkertovat/lapset/In_English/frontpage/index.htm

Collison, C. & Mackenzie, A. (1999). The power of story in organizations. *Journal of Workplace Learning* II(1), 38–40.

Dodson, M. (2000). *Social ethical and political morality: Using Tom and Huck to develop moral reasoning.* Retrieved (21.4.2014) from http://www.indiana.edu/¨^eric_rec/bks/at13ex.html

Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K. & Kyngäs, H. (2014). *Qualitative Content Analysis. A Focus on Trustworthiness.* Retrieved (2.8.2014) from http://sgo.sagepub.com/content/4/1/2158244014522633

FNBE (2004) *Perusopetuksen opetussuunnitelman perusteet*. [The national core curriculum for basic education] Helsinki: The ministry of Education.

FNBE (2014) - Perusopetuksen perusteluonnokset (2016). [The sketch of the national core curriculum for basic education.] Retrieved (10.8.2014) from http://www.oph.fi/ops2016/perusteluonnokset/perusopetus

Grossman, P. (2001). Research on the teaching of literature: Finding a place. In V. Richardson (Ed.), *Handbook of research on teaching* (4th ed.) (pp. 416–432), Washington, DC: American Educational Research Association.

Johansson, M. 2006. The work in the classroom for sloyd. *Journal of Research in Teacher Education*, 2–3/2006, 153–171.

Karlsson, L. (2009). To construct a bridge of sharing between child and adult culture with the Storycrafting method. In H. Ruismäki & I. Ruokonen (Eds.), *Arts contact points between cultures. The first international journal of intercultural arts education conference book*. Research report 312 (pp. 117–129). Helsinki, Finland: University of Helsinki.

Karppinen, S. (2008) Craft-Art as a Basis for Human Activity. *International Journal of Art & Design Education*, 21(1), 83–90.

Kojonkoski-Rännäli, S. (1995). *Ajatus käsissämme. Käsityön käsitteen merkityssisällön analyysi*. [The thought in our hands. An analysis of the meaning of the concept crafts.] Publications of University of Turku. Serie C:109.

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.

Krippendorff, K. (2004). *Content analysis: An introduction to its methodology* (2nd ed.). Thousand Oaks, CA: Sage.

Langer, J.A. (1995). *Envisioning literature. Literary understanding and literacy instruction*. New York & London: IRA, Teacher's College Press.

Lu, M. (2000). *Multicultural Children's Literature in the Elementary Classroom*. Retrieved (28.6.2014) from http: //www.ed.gov./darabases/ERC_Digests/ed423552.html.

Mayring, P. (2000). Qualitative Content Analysis. *Social Research* 1(2). Retrieved (13.7.2014) from http://nbn-resolving.de/urn:nbn:de:0114-fqs0002204.

Pöllänen, S. (2009). Contextualising Craft: Pedagogical Models for Craft Education. *The International Journal of Art & Design Education* 28 (3), 249–260.

Pöllänen, S. (2011). Beyond craft and art: a pedagogical model for craft as self-expression. *International Journal of Education through Art* 7 (2), 111–125.

Rönkkö, M.-L. & Aerila, J.-A. (2013). Semiotic working process as a basis for children's craft process. An experiment in Finnish pre-school group. In U. Härkönen (ed.) *Reorientation of teacher education towards sustainability through theory and practice.* Proceedings of the 10th International JTEFS/BBCC Conference Sustainable Development. Culture. Education, 291–306.

Schank, R. C. (1992). Story-based memory. In R. Morelli (eds.) *Minds, Brains and Computers. Perspectives in Cognitive Science and Artificial Intelligence* New York, USA: Ablex Publising Corporation, 56 – 78.

Solomon, D., Watson M. S. & Battistich, V. A. (2001). Teaching and schooling effects on moral/prosocial development. In V. Richardson (eds.) *Handbook of research on teaching*. 4th. ed. Washington D.C.: American Educational Research Association, 566 - 603.

Seitamaa-Hakkarainen, P. (2000). *The Weaving-Design Process As A Dual-Space Search*. University of Helsinki. Department of Home Economics and Craft Science. Research Report 6.

Starko, A. (2010*). Creativity in the Classroom. Schools of Curious Delight*. New York: Routledge.

Yin, R. K. (1994).*Case study research. Design and methods*. California: Sage.

Yliverronen, V. (2014). From Story to Product: Pre-schoolers' Designing and Making Processes in a Holistic Craft Context. *Design and Technology Education: an International Journal*, 19(2), 8–16.

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