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Visual Ethnography as a tool in exploring children's embodied making processes in pre-primary education

Abstract

This article presents and discusses visual ethnography as a methodological approach to research on embodied making and learning in pre-primary education. The article reflects on how visual ethnography (Pink, 2007) contributes to uncovering and understanding ongoing learning processes through visually-documented making situations. Ethnographic methods are frequently used in educational research focused on learning cultures. The empirical material referred to includes children from one to six years old and staff in a Norwegian kindergarten as participants. Preschools and early childhood centres in Reggio Emilia, Italy, have developed methods of documentation that focus on visual readable material. This article discusses how visual ethnography provides visual representations of research findings and insight beyond pure written text. It also considers the connection between visual ethnography as research method and the presentation of research insights and findings; explores and visualises small children's learning cultures during embodied making with materials and tools.

Keywords: Visual ethnography, pictures, video, pre-primary learning cultures, materials, embodied making and learning, Reggio Emilia atelier

Introduction

Children's making processes with materials and tools are visible; what children learn *in* and *through* these processes is not necessarily visible. Academic reporting is a genre with relatively strict formal criteria. Research findings and new insights are normally presented through written text with tables and figures and sometimes with a few photos as illustrations. This article has three aims: (1) to reflect on how visual ethnography offers the possibility to uncover and understand children's ongoing learning processes in visually-documented making situations; (2) to contribute to the presentation of empirical material and academic research findings in a visual way; and (3) to discuss the ethical dilemmas concerning visual presentation of data. I hope that these three angles may add methodological contributions to further research regarding small children's cooperation, exchange and learning with materials and tools.

The empirical base referred to was collected and constructed during an ethnographic fieldwork study run in a Norwegian kindergarten. The study is published in my doctoral thesis *Forming i barnehagen i lys av Reggio Emilias atelierkultur [Art and Craft in kindergarten in the light of Reggio Emilia's atelier culture]* (Carlsen, 2015). The participants include staff, children aged 1.0–6.5 years and also the physical environment of the kindergarten. The focus in this article is the methodological part of the study: the use of visual methods in ethnographic studies and visual presentation of empirical data in research reporting. The pictures in Figure 1 give an impression of one type of visual material presented in the thesis. The reader is encouraged to look and describe carefully what is seen here:



Figure 1: Work with, and use of, concrete pavement stones and wooden planks, Carlsen (2015, p. 215). All photos in this article are by the author.

In Carlsen (2015), visual data is analysed together with written text from documents such as field notes and transcriptions of sound recordings from focus group interviews. Here, I focus on the visual parts of the ethnographic research method, which in some of the chosen examples from the fieldwork also includes the interplay between empirical data from nonvisual sources and video recordings.

The article has the following parts:

- Discussion of ethnography, educational ethnography and visual ethnography
- Documentation in Reggio Emilia as source of inspiration
- Experiences with visual tools in ethnographic fieldwork
- Visual presentation of empirical material
- Transparency in the process of interpretation and analysis
- Closing comments

About Ethnography

The word *ethnography* derives etymological from *ethno*, which means folk or people, and *graphia* or *grafein*, which means 'the written' or 'to write'. Through the writing act, the researcher formulates observations and new insights during the research process. The result of the process is called *an ethnography*, referring to Alvesson (2003). An ethnography gives the reader information about both the insights and conclusions worked out during the study but will also show the researcher's analytic route to these conclusions (Emerson, Fretz, & Shaw, 1995).

In origin, ethnographic methods belonged to anthropological studies of foreign cultures, mostly native cultures far away from Western society. In classic anthropological studies, the field notebook played a key role. In this book, or books, the researcher successively wrote *the story of the field*. Her experiences and knowledge were extracted at each stage of the work. These notes were the basis for further observations and, at the same time, the data for final analysis after the fieldwork ended.

Both Alvesson (2003) and Silverman (2004) underline that ethnographic methods and ethnography as methodological approach are used with significant success to study *natural environment situations* and the stream of actions going on in these situations. Therefore, ethnographic methods or an ethnographic approach are often used to study different subcultures, and both school culture (Kullberg, 2004) and preschool cultures can be seen as such. Baszanger and Dodier (2004) give the following description:

Ethnographic studies are carried out to satisfy three simultaneous requirements associated with the study of human activities:

- (1) the need for an empirical approach;
- (2) the need to remain open to elements that cannot be codified at the time of the study;
- (3) a concern for grounding the phenomena observed in the field.

(Baszanger & Dodier, 2004, p. 10)

In the same article, Baszanger and Dodier (2004) name ethnography as 'a science of the particular'. In ethnographic studies, the researcher is the main tool for extracting new knowledge. The researcher's position is striking a balance between closeness and distance. Agar (1980) describes the position as being *the professional stranger*, which is also the title of his book from 1980.

Educational Ethnography

Kullberg (2004) points to Margaret Mead as the first anthropologist who was interested in the classroom as a field for ethnographic studies. In 1942, Mead wrote the article 'An Anthropologist Looks at the Teacher's Role' (Mead, 1942). Mead is interested in children's learning, but she also studies the teachers' investigation of their own teaching. Using ethnographic methods in the classrooms, Mead simultaneously gives the teachers access to their own learning processes (Kullberg, 2004). Life in kindergarten is varied and complex and includes a range of groups: children, parents and staff with different professions. The political, institutional and physical frames give a variety of conditions to the pedagogical activities in kindergarten (Gulløv & Højlund, 2003, 2005). An ethnographic approach opens up different ways to collect and construct empirical material. For the study of small children's actions with materials and tools and of their nonverbal communication with the adults, it is important to choose methods that give a picture of the studied culture that is as rich and multifaceted as possible. Denzin (1994) underlines the value of different methods, and Alvesson (2003) refers to it: 'The use of a multitude of methods – sometimes referred to as triangulation — is often to be preferred, not in order to zoom in the truth through different

methods, but in order to create a *richer picture* (Denzin, 1994)' (Alvesson, 2003, p. 172, my italics).

The picture constructed by the researcher changes and is enriched during the fieldwork and is at the same time the ongoing and final source for analysis in ethnographic research.

Visual Ethnography

In the same year that Mead published her article about the teacher's role, she published a study of Balinese culture following an anthropological field study on Bali together with Gregory Bateson. Of interest here is that the analysis of the Balinese study was presented in two volumes. Volume 2 was titled *Balinese Character: A Photographic Analysis* (Bateson & Mead, 1942). This volume shows a series of photos, which describe specific situations in adult behaviour together with children as part of the children's upbringing. This shows that, together with field notes in black wax-covered notebooks, anthropologists such as Bateson and Mead used series of photos to analyse and present data. As far as I know, Mead did not use pictures systematically as data in her school research. She does not refer to pictures or uses photos in her article about the teacher's role (Mead, 1942).

Anthropologists' early interest in and use of pictures and film as method, empirical data and as part of the publication of research findings began to build visual ethnographic methods. Despite this continuum from the early twentieth century, the situation and conditions for visual methodologies are completely different today. The wave of tools capable of taking pictures within people's daily life makes it nearly impossible *not* to be photographed and digitalised. This raises important ethical questions, which I will return to later.

Seen from the Arts and Craft research field, Gillian Rose (2007) gives a useful overview of visual methodologies and describes different methodological angles of research through and about visual data material. Sara Pink (2007) establishes what she calls *visual ethnography*, and she presents different ways to use photos and video in the interplay between researcher and researched persons and cultures. Here, I concentrate on participatory photography and video. For further discussion on chosen limitations in my own fieldwork according to Rose, I refer to Carlsen (2015, pp. 162–168, 348–352). Pink broadened the visual angle of research with the concept *sensory ethnography* (Pink, 2009). The focus here is to rethink ethnographic research through a systematic awareness of all the senses. This gives the researcher in ethnographic studies new possibilities to collect and construct new knowledge.

One important point from Pink, which has been useful for my fieldwork (Carlsen, 2015), is the recommendation to use visual tools well known in the research field. In the study referred to, the preschool in which the fieldwork was conducted had an explicit formulated inspiration from the pedagogical experiences in the municipality of Reggio Emilia, Italy. In those preschools, photos and video film are commonly used tools in the didactic documentation of children's culture and learning processes.

Documentation in Reggio Emilia as a Source of Inspiration

The pedagogical experiences in Reggio Emilia, Italy, have been, and still are, an inspiration for many kindergartens to make children's learning processes visible and inter-subjectively available. These experiences give the preschool teachers the power to define and use their own observed material from educational practice collectively with the aim of uncovering and discussing children's learning strategies (Giudici, Rinaldi, Krechevsky, 2001; Rinaldi, 2006; Vecchi, 2010). In Reggio Emilia, the teachers have used visual documentation as an important part of their didactic tools for decades. They have developed methods to document their ongoing pedagogical practises, and continuously adopted suitable technological changes as these occur.

In Reggio Emilia, the pedagogical staff calls their work with documentation in the schools for small children *research* (Rinaldi, 2006; Giudici et al. 2001). Several academic researchers question this and do not regard the exploratory ways of working in Reggio Emilia as 'real' research. Examining the work in the Reggio preschools from the angle of teachers as researchers using the Action Research methodology (AR) could yield a fruitful discussion from both a democratic and epistemological perspective. Questions such as who produces the knowledge and for whom it is valid are relevant and have to be asked by all researchers. The AR-perspective of changing practice *with* the community of participants includes both teachers and children in Reggio Emilia in their ongoing exploratory projects and may provide important contributions to educational research. Reggio Emilia's early childhood centres and preschools have had and still have impact on early childhood education in the Nordic countries, among many others. The use of visual documentation connected to children's creative learning processes and the development of the teaching profession is therefore of interest to researchers applying a visual ethnographic approach to their methodologies.

Experiences with Visual Tools in Ethnographic Fieldwork

The following description of experiences with visual tools in ethnographic research in early childhood education builds on Carlsen (2015). Inspired by the original anthropology researchers' 'black wax-covered fieldwork notebook', I purchased ten notebooks with blank sheets in A4 size to prepare the field notes, written and drawn. The first day in the preschool showed that this was completely impractical for use in an observational situation. The notebook was too big to handle, there was nowhere to place it other than on the knee, and the children were eager to see what the researcher was doing with the book instead of carrying on with their work and play. As a result, Post-It notes took the notebook's place as the daily tool for notes (ref. Kullberg, 2004). The notes were so small that it was possible to put them in the pocket when moving around. The limited space made the notes very compact, like keynotes, and sometimes as rough sketches of places and of children's positions in the room. Immediately after each observation pass, the Post-It notes were pasted into the notebook in the right order with comments, reflections and questions for the next observation pass or for conversations with the preschool staff. The whole observation session was written up in a digital logbook after the observation, with the Post-It notes and further notes as basis.



Figure 2: Daily tools in fieldwork, Carlsen (2015, Figure 15, p. 163).

In the first phase of the fieldwork, the construction of data was mainly built on Post-It notes before the permission/non-permission to take photos and videos was collected from all the families and staff members. After permission had been given, further work with photos and

video files were included in the log. I looked through the pictures and video-takings and included remarks about sections of special interest at the actual moment, with preliminary interpretations, in the ethnographic text in the digital log. The pictures in Figure 2 describe the daily tools used in the collection and construction of the empirical material.

Carlsen (2015, pp. 163–166) describes the connection between the researcher and the chosen visual tools. Referred from the thesis in short form: During the fieldwork, I used the camera as a selecting eye just as I do in my work as an Arts and Craft teacher. Automatically I compose the photos and screen sections with aesthetic balance, taking in consideration colour, lines and visual elements through the lens. In the observation situations in preschool, I very quickly handled the anonymity of the person or situation photographed. Focus was mostly on hands, materials, tools and actions, not on faces. The video camera gave me another experience. It led me to an even more conscious awareness of the role as researcher. How? My experience with video as tool was limited when I started the fieldwork. This limitation led to an alienation as in Sklovskij (1971), because the tool established a distance between the field and me as researcher. This was not the case with the still-photo camera, which I experienced as an extension of my hand and eye in the situation as researcher, in the same way I do in my professional and private daily life, to which Pink (2007) also refers. With the video camera as tool, the selection of situations I observed — the angle, the length — elucidated the position of my body in the room. I became aware of all the *not*-selected situations going on in the rest of the room. These not-selected situations were possible to observe with my eyes and ears at the same time as I held the video camera with its lens in a more or less fixed direction to the recorded situation. This made me explicitly aware that many things were going on in the room, in other rooms and outdoors at the same time.

This experience underlined the fact that as researcher I only get a glimpse into what is going on in the life of the preschool during a day: most of what happens eludes my consciousness. This shows that a well-known tool such as a pencil or camera was working as a part of my body, but the unfamiliar aspect of working with a video camera sharpened the awareness of the researcher's position and showed clearly the limitations of my observations. The insight given through observation by Post-It notes was enriched and corrected when I looked carefully through the video sequence from the observed situation (see Carlsen, 2015, pp. 249–253).

Using a variety of research tools provides different data collected and constructed during the fieldwork. The additional benefit of these different data sources is that they can enlighten each other. In some sequences of observations, the different tools in the aforementioned fieldwork gave variety to the empirical material and differentiated the findings, as Alvesson (2003) observes.

To Present Empirical Material Visually

Different institutions and researcher societies have various traditions concerning the ways to present empirical data in research reporting. The way to present data also depends on the researcher's methodological choices. Carlsen (2015) argues that a rich or thick presentation of both written citations and visual pictures from the empirical material gives the presentation a needed transparency. Other researchers on pre-primary education and arts, such as Lind (2010), have experimented with ways to present empirical material with the same intention. In my thesis I use the concept *expanded text* in the presentation of empirical material from fieldwork and consider the pictures as well as the written sequences as text. In some examples, the pictures bear the main part of the content, and the written text underlines or clarifies what can be read from the visual representations. The thesis has four variants of visually-presented empirical material: one derived from digital still-camera use and three from video-takings that are worked on and presented in different contexts.

Still Photos

Still photos are presented in series, mostly of three or nine. The quality of the pictures is good, and it is possible to read out a lot of detailed information.

As an example, I use Figure 3, 'The green stick', where the photos are presented first and then commented on in the text.



Figure 3: 'The green stick', Carlsen (2015, Figure 35, p. 222).

The first paragraph commenting on the photos as visual text says:

The photo documentation in Figure 35 and the quote from the field logbook shows that it was the discovery of a completely uncommon green colour in a well-known natural environment that started the exploring. The bright colour under the bark, the moisture where the stick was found, the examination with different tools and the play in the forest are bound together into a meaningful whole in the children's everyday life.

(Carlsen, 2015, p. 222, my translation)

It is obvious that the pictures give more information about the situation than the written text. For example: the colours in this specific place in the forest; the various materials and the content of the soil; the social situation with children and one adult; which tools they are using; the way the children handle the tools and how the adult handles the knife; the attention to detail; the adult's presence; and the habit of documentation. It is possible to go more in-depth with verbal or written descriptions of each picture in the series.

Video Film Presented in Three Variations

Carlsen (2015) presents video film material in three variants. The print screen function is used to convert the video-take at particular points to still photos (screenshots), and these are processed further in a picture program. The information in a short video sequence is extensive, and it is necessary to limit it in some way. The first variant is video excerpts [*Videoutdrag*]. Here the pictures are combined with a transcription of dialogue in the video. The second use of video screenshots shows sequences of action, and the third is more descriptive: of rooms, things and situations — more like the use of digital still photos. The quality of video screenshots is not as good as digital still photos but is good enough to present the empirical material for further interpretation and discussion.

1. Video excerpts. Each video excerpt is based on one video-taking that consists of both pictures and sound/speech. To address the complexity in the empirical material, the excerpts combine pictures and written text. The excerpt starts with an introduction picture and a written description of the *entrance situation* and the participants. All the names of children and adult participators are changed. Then the dialogue from the video-taking is presented in italics, based on all the oral information transcribed during the analysis of the sequence, along with a short text with each picture when needed to comment on the course of action. The length of video excerpts in the empirical material varies from one to nearly four pages. I present a short excerpt here as an example (Carlsen, 2015, pp. 202–203). The text was originally written in Norwegian and has been translated into English by me:

Video excerpt 1. Anna, that's enough!
(9 minutes, 25 seconds)



1:1 Entrance situation:

Siv (5.2), Anna (4.4) and Sissel (5.4) are sitting by the small painting table in the BLUE section. They have been painting for a while and are each sitting with a sheet of black paper. They have a palette of colours in front of them that they have partly mixed themselves. An adult is present in the room. She places some bottles with glitter paint on the table but lets the girls control the situation themselves. It is a bit difficult to get the paint out of the plastic bottles.



1:2
Anna takes a firm grip on the cork and bottle of the gold paint.
Siv: *You have to squeeze carefully.*



1:3
Anna: *Can anyone open this?*
Sissel tries to get the cork off.
(...)



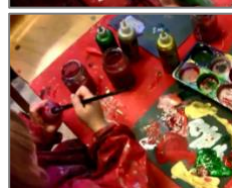
1:4
Anna tries to get the paint out of the bottle of red glitter paint.
Siv: *Do you want me to do it for you?*
Anna: *Yes.*



1:5
Siv helps Anna to squeeze a little of the red glitter paint directly onto her black sheet of paper.



1:6
Anna herself takes the green glitter paint and squeezes vigorously.
Siv: *Look at Anna! Don't take so much, Aaanaa! Must not take so much I said.*
Anna: *I was going to have silver on it, too...*
Siv to Sissel: *Are you going to have this one, too? Red?*
Sissel: *Yes.*



1:7
Siv: *There is a lot left.*
Sissel: *How do you know that there is a lot left? And you said it was simple?*
Sissel sees that Siv is struggling to get the paint out of the plastic bottle.
Siv: *No, I did not say that it was simple at all...*
Anna goes directly to the bottle to get as much paint as possible without a struggle.



1:8
Siv: *So, that's enough, Anna! Anna, that's enough!*
Siv takes the cork and bottle from Anna, who sings and really enjoys herself painting.
Siv: *Now we are not going to have more, not as much.*



1:9
Anna accepts that Siv takes the lead.
Siv: *Now I have to have some paper...*
Siv cleans the cork with a brush. She finds some paper in the trashcan and dries the cork.

The text below the video excerpt interprets the situation and compares it with corresponding situations:

Here Siv conveys the rules of how to handle paint and tools for painting. She is guiding (1:2) and is eager to help the others (1:4–1:7). She reproves Anna, who does not know, or eventually does not take the rules too seriously (1:6, 1:8). Anna immediately accepts instruction and asks for help (1:3, 1:8–1:9). As an experienced preschool child, Siv knows the rules for how to avoid waste and to have order. It is possible to discern the sound of the adult's voice when Siv says *we* instead of *I* (1:8). (...) Similar sequences where the children try things out, formulating and enforcing rules about clay exist in the empirical material.

(Carlsen, 2015, p. 203, my translation)

The interplay between the pictures and the two types of text characterise the video excerpts as constructed empirical material.

2. Sequences of action. The second use of video screenshots is to present them as short series of pictures, sequences of actions, named consecutively in the thesis as *Figures*. These series of pictures describe one specific sequence of actions. Sometimes the sequence is part of a longer story and refers to passages in the field note text, and sometimes the situation is a snapshot or completed event. The following example (Figure 4) is part of a long-lasting building process where several boys are building with wooden blocks in the construction corner of the room:



Figure 4: He opens a fictitious door, enters the house and closes the door again, from Carlsen (2015, Figure 50, p. 280).

The following text says:

The situation described in Figure 50 shows that the blocks give the opportunity to open and close a fictitious door in the right-angled building. It is reminiscent of a house and is used as a house. Lidvin gets an idea, and he tests a function. The situation takes nine seconds. The form of the structure and the short blocks that are facing him in the façade of the building invites the action to take place.

(Carlsen, 2015, p. 280, my translation)

Here the pictures, step-by-step, give the analysis of the action observed, and the following text comments on what is extracted from the video.

3. Still pictures from video describe the same phenomenon. The third and more descriptive use of video screenshots is to present them in the same way as the sequences of actions but in another context. The pictures are not necessarily linked together as parts of the same situation but describe the same phenomenon, thing or place. I give an example in Figure 5.



Figure 5: The use of documentation in kindergarten, Carlsen (2015, Figure 61, p. 317).

The text before the figure says:

In the different sections, the children use the documentation on the walls, although some of the pictures are hanging at a height more for adults than for children in the YELLOW section. In Figure 61, an adult places a long row of pictures; to the right, the pictures show how an adult and children use the documentation placed lower on the wall.

(Carlsen, 2015, p. 317, my translation)

These three ways of presenting empirical video material from a fieldwork study in pre-primary education are not very technically sophisticated. The choice of solutions had to function both in a printed edition of the thesis and in a digital version. Research articles published exclusively online give other possibilities: sound- and video-tracks could be included as links in the text. These will give even more information directly from fieldwork than the solutions I have presented here but will at the same time limit the immediate access to presented data in a working version of an article when printed out. The chosen presentation of empirical material in visual form will raise some different ethical dilemmas, but also some similar, to data as written text, especially when the research participants are children. In the following, I highlight some of the dilemmas encountered during the presented fieldwork.

Ethical Dilemmas and Choices during Fieldwork

Research with children as participants raises different ethical dilemmas than with adult participants (Bae, 2004; Seland, 2009). Children cannot formally refuse to participate in research if their parents have given their permission on behalf of the children. In the described fieldwork, the majority of the parents had given the researcher permission to observe and take photos and video films of their children in the preschool. However, to do so raises further ethical questions: in what ways do the children give their permission, and how do they communicate their opinions to the researcher during the fieldwork? Another question is: how does the researcher take these communications from the children into consideration?

Carlsen (2015) describes how a discreet message came from one boy playing together with two other friends. They played with small rectangular wooden blocks, in preschool normally named '*Kapplastaver*' after a Company name, and organised a topological landscape on the floor here Figure 6.



Figure 6: 'Someone is filming here...', from Carlsen (2015, Figure 51, p. 281).

With his face not at all directed to the researcher, who stood beside a shelf with the video camera lens fixed on their actions, a four-year-old boy said more or less to himself or commented to his friend:

– Someone is filming here...

The researcher immediately interpreted his message and asked if it was ok to film the situation. He confirmed that it was ok, and they went on playing (Carlsen, 2015, p. 169). An example from another situation in the same section of the preschool gave the opposite result: One group of 5–6-year-old girls was engaged with a lot of materials displayed in a small room, the workshop of the section. The researcher was interested in following their actions with the video camera, but one of the girls resolutely communicated with a lifted hand:

– *You are not allowed to film here!*

The two examples are commented as follows:

Children's messages and opinions affected the fieldwork and have had direct influence on the production of ethnographic material. Ethical choices in these two situations take into consideration the children's right to participation, as the guidelines for kindergarten (Kunnskapsdepartementet, 2006) presupposes, and to the recommendations in the ethical guidelines for research (Datatilsynet, 2008). One of the ethical dilemmas I faced was the choice between cancelling the filming of an interesting activity of importance for the research theme or respecting these children's strong message. The latter was chosen.

(Carlsen, 2015, p. 169, my translation)

All the adults on the staff in the preschool gave the researcher their permission to take videos during their collaboration with the children and other adults during the fieldwork. They all acknowledged that normal life should go on during the fieldwork period. However, one person on the staff nearly always stopped her ongoing interaction with the children and left the room when the researcher used the video camera. In these situations, the researcher went on filming. This situation was raised in the focus-group interview later, and the person leaving commented that she felt very uncomfortable in the filming situation. Carlsen (2015, p. 349) discusses the chosen methods and dilemmas connected to video filming, and the tensions in the reciprocity between the field and the researcher.

The following series of pictures belongs to the aforementioned second use of how to present video-takings in a research text: pictures that describe one specific sequence of action. The series is presented under the theme *Relations and Actions in Interaction* (Carlsen, 2015) and raises general ethical questions that are real for research concerning relations between people, especially with children involved. How does the researcher relate to actions and behaviour she observes that she finds unethical? In addition, how does the researcher use and present observations of this kind as empirical material? Figure 7, 'Kapplastaver, inclusion and exclusion' may illustrate the dilemmas:

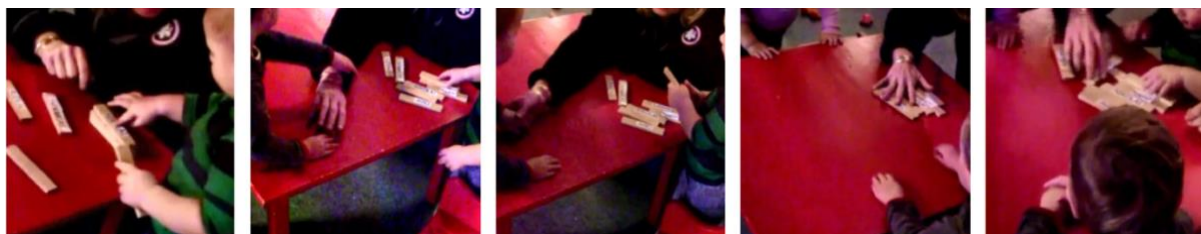


Figure 7: 'Kapplastaver, inclusion and exclusion', from Carlsen (2015, Figure 44, p. 254).

An adult sits with close connection to three children around a small table. She takes away one child's hands from the 'Kapplastaver' (wooden blocks), while the one closest to her is allowed to play with them. In the fourth picture, the adult protects the 'Kapplastaver' from the

two children who are not allowed to participate. They are excluded. To the researcher, there did not seem to be a reason for this action in the observed case, which was followed with the video camera. This raises the question: with what legitimacy does or does not the researcher intervene in such a situation to support a child? Lindahl (2002) discuss a very similar situation. Another question is: in what way is it suitable to communicate the observed situation to the adult observed, and how should one eventually raise a discussion in the staff or with the pedagogical leader? I raise the issue here because the use of video gives the opportunity to study the details systematically during the occurrence, and the chosen pictures in the presentation of the observed situation uncover a clear exclusion of one child. Written text does not give as precise an insight as this pictorial text does.

The next ethical dilemma linked to the last example includes the use of pictures on a more general level. How to present this sort of empirical material? In the described situation, the researcher did not intervene except to document what happened and then to comment on the situation in the final research report. To protect the adult participant, the solution could be to describe the situation in written text and leave the pictures out of the presentation. For me in Carlsen (2015), this situation was important to present in order to draw attention to the variety of relations between children, adults and materials. I chose to crop the pictures to ensure the anonymity of the participants. The pictures were included in the presentation to give the reader an opportunity to evaluate the interpretation and the researcher's analysis of the situation.

An aspect to be aware of when researchers include online publication of video-takings is the unintended messages connected to the empirical material. In kindergarten, many sorts of communications go on in the same areas both outdoors and indoors. The audio device in the video camera will pick up conversations that are not the focus of the researcher. These will accompany the video files when linked to the online text presented. The researcher has to be aware of the need for further technical processing to anonymise parts of the audio files connected to video-takings, if possible. A more general question is, therefore, which pictures and videos connected to a project could or should be included when published online, and what need is there for further technical processing to ensure an adequate level of ethical research.

Transparency in the Process of Interpretation and Analysis

A main point in the experiences from Reggio Emilia, with value for academic research, is that it is possible to share visual representations at an earlier stage of analysis than transcribed text or written interpretations of visual data. The use of pictures in the presentation of data and findings includes the reader in the researcher's material. Pictures as language are polysemic, and different people understand and strengthen various aspects of the visual documentation. When the researcher presents data with this sort of transparency, the reader gets an opportunity to protest, to argue or to differentiate the understanding of the findings that may go beyond the insights of the researcher. This provides the opportunity to develop new and unexpected knowledge.

The broad base for different interpretations does not mean that the inclusion of pictures makes empirical data more objective. The ethnographer is still the main research instrument and directs the camera or video lens to subjects and situations of interest. The rest of the ongoing stream of actions in the field is also left out visually. In the next step, the researcher chooses which of the wide range of pictures she finds describes the phenomenon under study in the most significant way. This may be evident when choosing visual documentation but constitutes a similar methodological problem as for written text. The familiarity with written text may sometimes cover this subjectivity of words and how their values color what is presented and can thus be less distinct than for chosen pictures. It is

possible to read still pictures from different directions, and pictorial elements can be interpreted, understood or highlighted differently from person to person. This interpersonal possibility for discussion is one of the important aspects to consider when using visual tools in research.

Closing Comments

Pink (2007) describes how the chosen tools in visual ethnography have to correspond with the tools used in daily life by participants in the studied culture. The discussed fieldwork (Carlsen, 2015) shows that visual tools, such as the digital still camera and video camera, are met with different attitudes by the children and the adults in the kindergarten and by the researcher. The experiences with a variety of fieldwork methods to collect and construct data material correspond to the concept *bricolage* (Pink, 2007). Visual sources play together with field notes, transcriptions of audio-takings and written text of different kinds. This builds a multi-faceted pattern of information which is analysed and interpreted by the researcher but could also be read in various ways by the research participants in the field.

In the municipal preschools and early childhood centres in Reggio Emilia, visual documentation, such as still photos and videos, is a rich source to revisit and discuss regarding both the children's and the teachers' learning strategies. The presentation and analysis of visual material in my thesis (Carlsen, 2015) gives new insight into small children's learning cultures with materials and tools. However, the fieldwork presented in the thesis does not include the participants in the discussion of empirical material as practised in Reggio Emilia. The use of visual ethnography as a method for exploring children's embodied making processes may offer additional possibilities to include the research participants, for instance with an Action Research approach by comparison with Carlsen (2015).

Pictures are constructed as visual data or empirical material through the observing act during the fieldwork, led by what is happening in the field. As in ethnographic methodology in general, the first step of analysis starts in the observational situation by choosing visual tools, choosing video-angle, choosing how near or far from the observed subject the researcher takes the photo, and so on. The further daily analysis of the collected material, visual and written, is conducted as much from the visual information as from the written notes (see Figure 2). The different sources play together and support each other. The visual material is rich and detailed in a limited space, as the small experiment you carried out connected to Figure 1 in this article may show — if you took your time to do it thoroughly. To describe the content of a picture through written text with the same level of richness is challenging. The interpretation and capture of meaning requires the ability to read pictures with great attention. The visual information has to be seen in the context of the whole, and the interaction between the different parts and the whole gives the possibility of expanded meaning. Carlsen (2015) underlines that the different representation forms do not exclude each other (ref. Pink, 2007) but are constructing a *richer picture* of what has been going on (ref. Alvesson, 2003; Denzin, 1994).

As a visually competent reader, the researcher constructs the ethnography, the story of the field, by selecting those pictures that give the most valid content of the insights found during the ethnographic research. I argue that pictures included in the presentation of research findings show more detailed information about courses of action in the studied context than written text alone. Pictures give the reader the possibility to enter the presented content from different angles and on different levels of information. Pictures presented as data also give the reader an opportunity for insight into the analytical process at an earlier stage than pure written text based on pictures. Used in this way, pictures benefit research transparency and participation in the construction of new knowledge.

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