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Experiencing (from) the inside[1]
– Mediated perspectives in kindergartens

ABSTRACT
This paper presents a case study of preservice kindergarten teachers' use of new form of digital imagery. The paper introduces spherical cameras and digital microscopes and discusses their affordances when introduced in practical use in in teacher education and in kindergartens. The use in kindergartens was introduced through a class of 34 teacher students in kindergarten education. The students were special-izing in Arts and design at Western Norway University of Applied Sciences. The use of images from spherical cameras and digital microscopes is discussed and analysed, based on data from student responses through two questionnaires, group presentations and discussions in class, and an analysis of various media material produced by students.

Keywords:
digital images, spherical media, microscope, 360-images, kindergarten

INTRODUCTION
In this project we investigate visual representations made with two digital camera technologies: digital microscopes and digital spheric cameras. The first is used to look closely into visual details – *at* a specific point. The latter represents a complete visual sphere, as seen *from* a specific point. We report from a case study, where students have used these technologies, and discuss how pre-service teacher students are able to utilise these technologies with children in Norwegian kindergartens.

The case study's focus is inspired by Hans-Georg Gadamer's view on aesthetic experiences as processes of meaning making, where meaning making is understood as an integrated part of the interaction with an observable reality (Davey, 2015). Gadamer's notion of aesthetic 'experience' is nuanced through the German language, which distinguishes between *Erlebnis* and *Erfahrung*. Erlebnis is something one experiences, like an event, whereas Erfahrung point towards a result from reflecting upon the initial experience. Erfahrung is when the experiencer becomes aware of the experience – he has "acquired a new horizon" (Gadamer, 1993, p. 354).

When exploring a physical environment our experiences can be said to vary in accordance with perceived affordances (Gibson, 1979). Quite a few sensuous experiences are closely related to size, not only the size of objects and the environment itself, but also the size of the perceiver. When the basis for experiences are mediated – represented in a medium – the medium also come with their own technological affordances (Conole & Dyke, 2004). Experiences will always be influenced by huge number of factors and the interaction between these factors in specific places and situations. Two persons will never have exactly the same experience, even when being in the same place at the same time and/or being subjected to the same mediated representation.

In *Perspective as Symbolic Form* (Panofsky, 1991), the art historian Erwin Panofsky states that perspective literally means "seeing through". Knowledge becomes a matter of perspective, both sensuous and metaphorically. During the Italian Renaissance one defined art as dependent upon the artist's ability to manipulate the spectator's perspective for dramatic purposes (Bolter & Grusin, 2000, p. 26). Following the idea of manipulating and playing with perspective, we like to investigate how the two representative, visual methods can be used by students in their internship in kindergartens, to develop the children's understanding and mediated experience of particular spaces and places.

We investigate this process of experience and meaning making through the following questions. The first question addresses the immediate experience by or through the media:

1. How can images from microscopes and spherical images be used to create individual and/or shared experiences (Erlebnis) involving children in kindergartens?

By this initial research question, we try to address how the students are able to utilize the different visual representations and whether these affords specific aesthetic qualities.

This leads to the second research question, which addresses more reflected experiences, most often represented by recorded media:

2. How do teacher students develop individual and/or shared experience (Erfahrung) through communication with children, mediated with images from microscopes and spherical images?

Both questions are investigated through media products, made by the students together with children, accompanied by an intervention in class and student feedback through pre- and post-questionnaires.

THE CONCEPT

As individuals, we experience the world differently. As children we saw something else than what we do as adults. Our past experiences and interests affect our perception, but also specific conditions such as size and point of view will vary and affect individual experiences. When coming back to a place last seen as a child, many will express things like "I remember it as much larger". Thus our experiences of the world is connected to our own bodies, and even if a room stays the same the relation between the room and a body will change as an individual grow older (Merleau-Ponty, 1994 [1945]). When the basis for an experience is mediated, we also have to consider how various media offer different technological affordances. Media may provide us with perspectives that would often not be available if we were to experience solely with our own body, regardless of the body's age or size. Still, mediated perceptions do not become replacements for bodily experiences, but they can work as extensions (McLuhan, 1964).

Understanding experience though mediation can be seen in light of John Dewey's discussion in *Art as Experience* (1934). Dewey understands aesthetic experiences as something that can be found in every aspect of daily life, as something that should be available to the masses, and thereby contribute to the development of society. Dewey believed that humans are shaped by their environments and the experiences they have, a perspective that can be linked to James Gibson's definition of *affordances*. Gibson understands affordances as what a specific environment "offers the animal, what it provides or

furnishes" (Gibson, 1979, p. 127). Affordances can be understood as all the possibilities in an environment, independent of any individual. The environment can, however, be shaped by the actors being present at a given time and by the media and tools introduced in specific situations.

Dewey's understanding of aesthetic experience can be understood as meetings between actors, artefacts, performances, natural objects, etc, and the culture that surrounds them. These meetings will always include material qualities, including technological affordances, which also evolve through feedback from the aesthetic process itself. Thus, what we can characterise as design for experiences has to be understood as integrated with material, culture and previous, personal and collective, experiences.

The virtual gaze

The aesthetic representations given by the digital microscope and the spherical camera have in common what we can call a virtual gaze: we see the world and ourselves through technology (Rettberg, 2014). When spherical images is viewed through "VR glasses" the user look into another world, being visually isolated from the physical surroundings. A kind of virtual gaze that have many similarities with the field of view directed by the microscope. One can argue that these media, in different ways, create a feeling of being immersed by the media, even when the perceiver is in another time and place than the perceived object. This idea of visual immersion was proposed back in 1965 (Sutherland, 1965), and first realised with head-mounted displays (HMD) a few years later.

In this project our aim has been to investigate the potential of two mediated forms of gaze, and their corresponding visual perspectives: looking from the outside into small details and, on the other hand looking out from a point, inside a sphere. To achieve the look into details we have introduced digital microscopes. The idea is that the microscope narrows the view down to an extremely individual perspective – a very specific view, focusing on one small detail. The spheric camera does something almost opposite: from a single point the camera captures light from all directions, creating a picture that can be wrapped on the inside of a virtual sphere. The user of a spherical representation can later control the view and see in all directions – the visual representation has a defined visual standpoint, but no pre-selected perspective.

FIGURE 1. The four different cameras used by the students. The spherical cameras to the left: Ricoh Theta SC (1a), Samsung Gear 360 (1b) and Nikon Keymission 360 (1c). To the right the digital microscope (1d). All these cameras are off-the-shelf consumer technology.

The two pictures below show two dimensional versions of images meant to be mapped on the inside of digital spheres. The pictures indicate some of the possibilities related to change of perspective when placing the user visually, literally inside an environment.

FIGURE 2. Two spherical images. The top and the bottom of the image are lines that become represented as points, when viewed with the proper software. The right side of the images also meet the corresponding left side. Thus, these images can be seen as analogue to a Mercator-projection, as used to project a globe on to a flat surface. To the left (2a) is an image directly from the 360-camera, where the camera is placed at the bottom of a flower bed. To the right (2b) a manipulated image made from two spheric images: one taken from the inside of a three-dimensional, physical map model, and the other showing the terrain at the site that the map i representing. The two images are manipulated into one with the map model in front and the image of the terrain in the background. These images, from a previous project, were among those presented to the students to give them ideas about changes of visual perspective. These images do of course look very different when viewed on screen with the proper software[2], which maps the flat image on the inside of a virtual sphere.

The digital microscopes we use are specifically intended for children's use (Figure 1d). With a simple tap on the top of the microscope, you take a picture of the object you are examining. However, the microscopes had to be connected by wire to a computer. The pictures below show microscope pictures taken of details from a printed book page and a finger, details we can barely see with the naked eye.
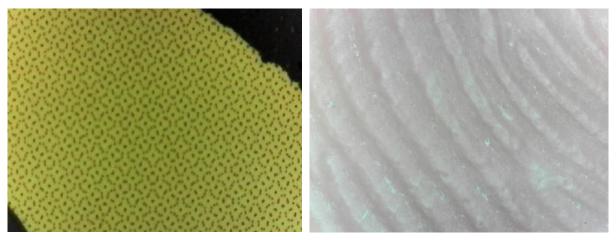

FIGURE 3. Magnifications taken by a digital microscope, showing a raster image on a book page (3a) and the pattern on the tip of a finger (3b).

The assignment the students were given in their internship was meant to encourage a playful approach to the use of digital media. When introducing digital technology there is always a danger that the digital artefact (physical devices and/or software) will limit the activity, play and imagination if the technology is given too much attention. The Danish drama teacher and researcher Klaus Thestrup has worked with the concept "media play", which he defines as children's play with the media they have access to (Thestrup, 2013, p. 66). Thestrup states that the use of a specific technology should not be given in advance but be negotiated and changed along the way by the children. The goal, according to Thestrup, must be that children and educators investigate something they are concerned about (2013, p. 307). Researcher on children and media Stine Liv Johansen says that "One of the hallmarks of play is that it focuses on the process rather than the product, which unfortunately is rarely highlighted in play with digital media (our translation)" (Johansen, 2015, p. 86).

Our initial presumption was that students, when working with children in kindergartens, would explore the opportunities given by the different digital cameras. We also tried to encourage the students to offer these mediated experiences as an extension to playful, tactile and bodily experiences, not as an starting point or a final goal.

FINDINGS

As soon as the students were beginning to get familiar with the technological aspects they were challenged to come up with some thoughts and ideas about how they were going to implement this during their internship. During their two-week internship in kindergartens, we asked the students to explore what it means to adopt different perspectives with the children. These perspectives could be created by physical means, and/or by mediated representations. The students visited eight different kindergartens, where the children range from one to six years. In their exploration of perspectives, we emphasized the use of physical materials, bodily exploration and the digital tools (spheric camera and microscope). After their internship, the students delivered pictures, "stories of practice"[3] and shared their experiences through group presentations.

Findings from pre-questionnaire and group discussions

The 8 student groups visited 10 different kindergartens. Prior to their internship, we let the students answer a questionnaire to get some insight about their previous experiences, reflections and attitudes regarding digital technology. The students were also able to write longer comments. We received a total of 29 anonymous responses.

10 students stated they had previously used digital technology with children, mostly by taking pictures together with the children. Most of the students were positive (17/29) to the use of digital technology in the kindergarten, some were more neutral (9/29) and only a few were more sceptical (3/29). Quite a few commented that digital technology is a large part of the children's life and therefore the kindergarten must take an active approach. None of the students thought the use of digital technology in kindergarten in general is too extensive. The students either said the use is at an adequate level (16/29), or that digital technology is being used too little (13/29). The students believed many employees in kindergartens have little knowledge about digital technology. Students commented on digital technology being used for the children to sit still (watching movies, playing a game etc.). This corresponds to national surveys conducted in Norwegian kindergartens showing the most widespread activities related to the use of digital media are about taking pictures, retrieving information, listening to music and playing games. It is less about creating something with the children. This is linked to the lack of competence among the employees (Jacobsen, Kofoed & Li, 2015, p. 78).

Only one student had previously used a digital microscope and one had used a spherical camera. We also asked the students if they were using Google Street View, given that this is the most widespread spherical media. We were somewhat surprised that none of the students seemed to use this service often (every week), in fact they either rarely used it (18/29), very rare (5/29) or never (6/29). Those who had used Street View mainly used it to get an impression of a place before they go there.

After answering the pre-questionnaire, we lead the students to group discussions. Before their internship, we wanted them to discuss their starting point. The students already knew the children from their last internship. Roughly speaking, we can say the students planned for three different approaches:

1. Collect materials outdoors, and then examine them with the microscopes indoors. (This is much the same as we let the students do when introduce the microscopes. In other words, it is a way of working the students already know.)
2. Introduce the devices for the children, and then plan how to use them based on the children's input.
3. Working with concrete themes or materials related to activities they know the children like. This could be building with Lego or cardboard boxes, examining the body or reading a children's book.

Findings from student presentations and post-questionnaire

The students' presentations were dialogic, and not following a specific structure. In the following we have organised some of the reflections and responses focusing on our interest in the affordances of the two media technologies: spherical cameras and digital microscopes. Each paragraph summarises the report form one student group. Not all groups are represented as there were quite a few examples of almost similar reflections.

Featured student experiences with digital microscopes

Working with the microscope the students asked the children what they expected to see before looking at the image on the screen. This became an engaging activity that kept the children interested for quite some time. Especially two children made many suggestions. The children did, however, experience trouble when trying to keep the digital microscope still and looking at the screen while the software counted down. This worked better when the students showed the children how they could work two and two together. The children especially enjoyed looking at books, and investigate the details that revealed how the printed colours and shapes are composed of raster. These details are hardly visible to the naked eye, and seeing these images was a new experience for the children.

One student group worked three times with the same group of children. The first time they used the microscope to look at food. The second time they chose the theme of body and clothing. The children got to explore this themselves, looking at skin, hair, and different fabrics. The last time the children had to choose materials by themselves, and they ended with taking pictures of a book.

The students introduced a group of children to the microscope in a separate room. The children chose to take pictures of toy animals and pearl jewellery. The children were engaged, but a little impatient. Still, they kept on with this activity for an hour without anyone getting bored. Two days later, the same group wanted to try this activity again. This led to further experimentation, and the children stated that they would like to do these activities on later occasions.

Featured student experiences with spherical cameras

The students made up a story about a fly on the dining table, as a way to introduce the children to a visual perspective seen through the spherical camera. The children found the story engaging, but as soon as the spherical camera was introduced it took away the immediacy from the experience. The children found it much more engaging to hide from the camera. These findings are somewhat consistent with what these students experienced with another group of children. They brought the spherical camera outside, and the children were to place the camera. The kids thought it was interesting to look through the camera, using the viewer built into the mobile application that can control the camera.

The students worked with two four-year-olds, who engaged in building a "fortress" with paper boxes. The students experienced that the children were more into playing, and less interested in taking pictures with the spherical camera. These children also found it more fun when they were allowed to take part in the picture, the idea of hiding from the camera became a showstopper. However, this may be caused by the fact that these students did not manage to control the camera from the app, making live view impossible.

One student group built a cardboard house, big enough to make room for number of other objects. The children enjoyed this activity, but as soon as the spherical camera was introduced some of the engagement decreased. The children did not put much effort in placing objects at specific places inside the house. The children did however show some interest when they were able to recognise the objects they had made, when the picture from the camera was shown live on a big screen. This inspired the children to create multiple installations with Lego figures, which they called exhibitions. The children put the figures into new contexts at several different places: in a box, on a table in a shelf, etc. On their own initiative the children asked that spherical pictures were taken.

One student told about how he was playing hide and seek outside together with three children. The children were sorry because they had to go indoors, and the play was interrupted. The student told the children he knew a way they could continue playing, even when being indoors. The student put up the spherical camera in a room, one of the kids hid and the others saw if they could find him on the

screen. One of the children suggested that they could hide a doll instead. They hid the doll in turn repeatedly.

In one of the kindergartens the children had been introduced to tales about anthropomorphic characters where mice had a key role. The students showed videos of real mice, and talked with the children about how the world might look from the mice's perspective. The students wanted to use the spherical camera to mediate the mouse perspective. They did however spend a lot of time setting it all up, and the camera ran out of power.

A group of boys found it fun to hide from the camera. They also hid the object in the picture and looked it up on the screen, on the mobile, afterwards. This group also found it engaging that they were involved in the location of the spherical camera. This way of working gave the children room for exploration and the students experienced good conversations and reflections with the children about how something looks when the camera was placed in different locations.

At one point one of the students moved the spherical camera out of the window. This way they could look at the same environment from two simultaneous perspectives: one by looking out the window, which became a kind of bird's eye view. The other perspective could be seen on the screen, a kind of frog perspective.

Post-questionnaire

The students were very consistent in their feedback that they would like to use digital microscopes later, when they start their professional career. They found the microscopes easy to use and catching for the children. The students were more sceptical for using spherical cameras. They tell about technical problems and adult-controlled activities. One of the students sums up their use of the spherical camera like this: "We didn't get the hang on it, and we thought it was difficult to catch the children. Probably because we lack knowledge and experience. I think this could be a nice activity with a little more planning and experience".
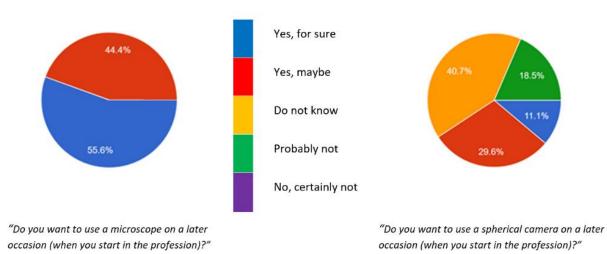

FIGURE 4. Students' response to using microscope and spheric camera.

Many of the students say they have gained new inspiration after listening to fellow students' presentations and that they now see new opportunities. When we asked the students "Have you changed your view on the use of digital technology in kindergarten?", their responses were reflecting that the students were either neutral or on their way towards more positive:
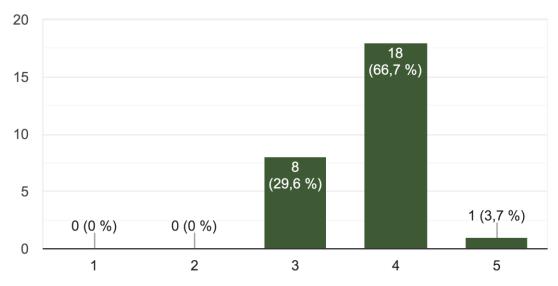
FIGURE 5. "Have you changed your view on the use of digital technology in kindergarten?" The answers range from 1 – "More negative" to 5 – "More positive"

Despite technical problems, the students show a positive view of on using digital technology in the kindergarten. "I am positive about using digital tools because society has changed so much today with regard to the technology and the development that is". The students, however, report that digital technology is not very visible in the kindergartens they visited. This is explained by lack of interest, finances or expertise. A student puts it like this: "The kindergarten had no experience with the use of digital tools, at least not the use of digital microscopes or spherical cameras. An employee had purchased a digital microscope one year ago, but she never used it".

In the post-questionnaire the students were asked: "Based on your experience, what do you think about the use of digital technology in kindergarten you visited?"
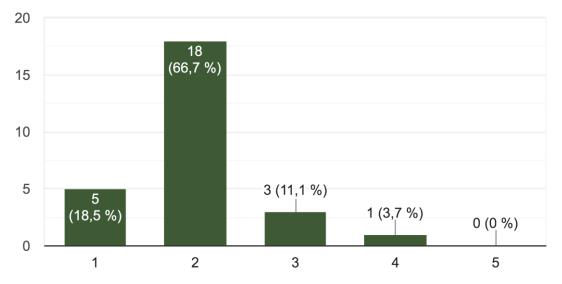

FIGURE 6. "Based on your experience, what do you think about the use of digital technology in kindergarten you visited?" The answers range from 1 – "Used way too little" to 5 – "Used way too much".

DISCUSSION

The first approach, defined through the first group discussions, focused on collecting materials to examine with the digital microscope: From their reports it seems like the students gave the children relatively large degree of freedom when being outdoors, collecting items to magnify. When bringing this material back to the kindergarten, working indoors, the spatial freedom became more restricted. This is clearly caused by the affordances (Gibson, 1979) introduced by the digital microscope, which has to be physically connected to a computer. The microscope itself can only be operated by one person at a time, but the operation is straight forwards and can be done by small children. The students were able to let one or a few children work together at the computer screen, or they chose to show the images through a digital projector on a big screen. During their test of the microscopes some students discovered that they were able to use the digital microscope as an ordinary webcam. We did not lead the students in this direction, but following the webcam-approach tools like webcamtoy.com can easily be used give the digital image completely new aesthetic properties (Conole & Dyke, 2004). This can open an exciting world of digital play (Johansen, 2015; Thestrup, 2013) where children can interact with the images in a number of new ways.

The second approach, where the students planned to introduce the devices and they play along with the children, came with a clear intention to allow the children to take more control. Especially when using the spherical camera, one may assume that the activities could be controlled by the child(ren), given that these cameras can be operated through a smartphone or a tablet computer. The children might be allowed to place the camera, and then take the picture from a remote position, experiencing a specific situation and/or environment for two, simultaneous perspectives (Panofsky, 1991; Bolter & Grusin, 2000).

We did ask the students to try to avoid taking pictures where the children become visible in the picture. This is due to questions about minors, personal information, and safety. This became a challenge as long as the spherical camera records information form a complete sphere. Our assumption that this could be developed into a kind of play, where the objective can be to hide from the camera, did only partly turn out successful. Some children found the hiding exciting, but quite a few took the complete opposite approach and found it more interesting to stage themselves in front of the camera. Some of the students characterised this playing with the camera as the children being in a "flow", where the children became immersed in the activity. The students also referred to aesthetic learning processes, reflecting that the introduction of the camera has an influence on processes, and that this brought something back to the learning environment.

The third initial approach was related to working with activities they students knew the children did like. One group in particular followed this approach, a plan that implicated a relatively high level of teacher control. However, even though the theme and the materials might be decided beforehand the following process did open up. One can argue that the key to a successful leaning design is likely to be found in the change between taking control (by the teacher) and opening up for various degrees of participation and control. The students reflected upon whether the smallest children were able to conceptualise the view from the camera and relate his to this perspective. Small children may find it difficult to understand the somewhat technical connection between camera and picture, especially if there is a delay between the action that is photographed by the camera and the time of viewing the final image.

When we introduced the students to the digital microscope and the spherical camera, we did this with an assumption that this would introduce new ways of looking at familiar situations and objects. We were also hoping for some sort of division between the immediate experience, the images seen on a screen in real time, and a more reflected experience, when the images were played back after the represented activity was over. As it turned out we can clearly see a number of examples where this duality came into play, but most of the the students were not able to articulate these qualities in their feedback and through group discussion. Only one student did explicitly reflect upon this visual duality. However, he did not see this at the time when using the camera, but was able to see this in retrospect. The situation that triggered this reflection was the incident where a spherical camera was placed out-

side, below a window, providing an alternative view of the scene that the children were seeing from the window.

When it comes to the digital microscope the students had less to report. This may be because this camera technology did work without any significant problems – there were few pitfalls to talk about. We may also assume that the microscope was not considered a novelty, given that the digital version more or less replicates the functionality from analog microscopes. However, the possibility of bringing a live view of the image, up on a screen, for several children to see, do open for collaborative approaches.

According to the student reports the digital microscope did cause high engagement among almost all the children who were engaged. It is evident that all the children involved had an aesthetic experience, in the sense of Erlebnis. When it comes to the somewhat more distanced experience, Erfahrung, the students came up with few examples. One example did, however, stand out in particular: two student groups did emphasise that the children used the digital microscope to examine rasterized graphics in books. This look into detail reveals some specific features related to print technology, and thereby give the children insight in how images are represented in print, an experience that goes way beyond the immediate experience of what the image actually shows.

According to the Norwegian learning framework plan, the kindergarten is required to introduce technologies, learning materials and methods that can help children to experience in new ways (Norwegian Ministry of Education and Research, 2017). The students did feel that they were able to give the children new technological experiences, following the duality of experience (Gadamer, 1993). Some critics believe that kindergartens should be able to choose to use digital media on their own initiative, not that technology should be imposed through centralised plans. However, we will argue that the most important is what activities one facilitate and whether the children are really becoming active participants and contribute to the use of technology. Even small children have quite substantial knowledge about digital cameras and tablet computers. New camera technology catches another, but the children are often not allowed to use these devices by themselves. Digital competence varies in society and in this context, kindergartens may contribute to reducing digital divides.

The students saw the use of digital cameras as an innovative activity for both children and adults in the kindergarten. It is, however, difficult to make a clear distinction between innovation when its comes to use and what can be perceived as innovation, but comes more from the novelty of the media and/or the technical artefacts.

One student group quite explicitly emphasised how the kids see a room, from another perspective than adults. They explained how they had used the spherical camera to represent three different points of view: a toddler, playing at the floor, a small child standing, and the room seen from the height of an adult, standing. The result became quite striking, and an eye opener. The students considered this something one can talk about in the collegium when planning activities and furnish the learning areas.

Several of the students reflected upon the possibility that a somewhat abrupt introduction of the cameras reduced the children's engagement. During their internship they did not have the time to see if the camera could be integrated in a way that the children saw as just another thing to play with, something that they could engage with as an integrated part of an overreaching activity. We saw quite a few examples of how children's creativity does often not lead to products but tend to have greater focus on the processes. This process-oriented approach may be further increased by digital cameras with preview possibilities, which invite to activities that can be conducted away from the camera itself and also favor real-time images without a specific focus on the image as a final result.

The students discussed whether it could have made a difference if they had used a tablet, rather than on a small mobile screen when working with the spherical camera. This seems like a very valid consideration. A larger screen would make it easier to work as a group, and a teacher might supervise the process from a little distance. In addition, larger screens will give an interface that can be used by more children with challenges, e.g motorically, sight etc. On the other hand, one often tends to look for more technology to compensate for observed deficiencies. From a learning design perspective, it can

be just as rewarding to work with the perceived limitations. In this case the small mobile screen, providing a limited, but also exclusive view.

Much of the feedback given by the students were concerning the spherical camera. However, this is not because this technology was the most functional. On the contrary, the digital microscope did blend much better into the activities in the kindergartens, and was more appreciated by both the children and the students. The digital microscope was a technology that all mastered, and it offered an immediacy that did not become as clear when it came to the spherical camera. The latter, even though on may argue that it holds a stronger potential when it comes to change of perspective, did create some distance between the placement of the camera and the viewing of the images afterwards.

CONCLUSION

Through this project we wanted to find out how digital microscopes and spherical images can be used to create *experiences* (Erlebnis) involving children in kindergartens. We have looked at different visual representations and discussed some of their immediate aesthetic qualities. Further we asked how teacher students develop *experiences* (Erfahrung) through communication with children, mediated with images from microscopes and spherical images. We have looked at the relationship between recorded images, seen in situations that were distant to the events and places that are represented, and how the students were able to reflect upon this.

As expected, it is easier to point out experiences as Erlebnis from the students work in the kindergartens rather than what clearly can be called experiences as Erfahrung. The students found varied ways to use and utilize the digital tools, yet it is limited how many of them who move beyond what we introduced through the training, before their internship. Quite a few students have had children collecting materials, and examined these in the microscope. In their use of the spherical camera, they created various environments before taking pictures. To a large extent the students let their own knowledge and experience with the digital tools decide these activities.

From our findings it seems like the digital cameras could be used to facilitate situation where the Erlebnis-dimension of aesthetic experience became stronger. When it comes to the Erfahrung-dimension there are some indications that the spherical camera brought some other qualities. The more distanced view, in most cases seen in retrospect, do encourage reflection over immediacy. We are, however, not able to be conclusive given that similar qualities were found when looking at stored images from the digital microscope. Further and more thorough studies are needed to clarify the interplay between the media and the situation where the mediated representations are viewed.

The present study has not given exhaustive answers on how to use digital microscopes and spherical cameras in kindergartens. The use and integration of new technologies require both training and expertise. However, we believe that the present study points towards the practical use of digital tools and sharing experiences as ways to explore new learning opportunities, which also may lead to new educational methods.

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[2] Spherical versions: 2 – https://photos.app.goo.gl/6v6wycXYom3N1MH79 and 2a – https://photos.app.goo.gl/W7Vv2Xb7MR5H7USRA

[3] «Praksisfortelling» or «Stories of practice» (our translation) is something similar to a personal field note, often used to make students reflect about situations they experience in their training.