

The creative minds of children; collecting data through drawing and photographing

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Abstract

Introduction: This review discusses different ways of collecting data from children in methodological studies. Researchers that perform studies with children use several different data collecting tactics. This review analyses the claims of creative visual research-methods in studies with children. The data collection techniques that are being analysed and discussed are drawing and the use of photographs. This article can be used while deciding on a research method when researching with children.

Method: The nine studies used to analyse these research methods could be found searching Pubmed, and using the snowball-method.

Results: Many claims of using drawing and photographing were found in the articles. Researchers can get closer to children's perspectives and views, and children feel free to express themselves. More verbal information is obtained when using drawing as a method. Even when children can not speak, they can still express themselves using photographing.

Discussion: Several concerns and issues on using these creative methods are being discussed, questioning the reliability of creative methods and discusses several ways to use these methods. Finally, limitations are discussed.

Introduction

John Cleese once said: "The most creative people have this childlike facility to play." (Nikkhah, 2011). Maybe children can think more creatively than most adults, maybe not, but regardless of who's mind is creative, thinking outside the box is rarely considered a bad thing. Not seldomly, creative thinking leads to the most innovative ideas. "Great ideas arise in the strangest ways and are blended from the oddest ingredients." (Root-Bernstein, 1999, p. 1) Therefore, allowing creative methods in research should not be an ill-bearing idea, but rather a logical necessity to obtain valuable new ways of thinking and information. However, when conducting research, creativity is not the first thing that comes to mind. Research needs to be as clean and unbiased as possible; a good research is reliable, valid, reproducible, systematic, credible and transparent (Brikci & Green, 2007). Therefore, the amount of invulbaar interpreteerbaar should be low to non-existent. In qualitative research, the method used to gather the data can be made reliable and the influence of bias can be minimised by following strict protocols. This becomes more complicated when doing research with children; Is the information a child gives through a semi-structured interview in a standard research setting, or when conducted in a hospital, in a white office with a white-coated doctor, still as reliable as when an adult provides the data? Or can children fill in pages of questionnaires unbiased the way adults do? Or are different research-methods more suited for children, in order to stay closer to their experience, and thus closer to what they really want to communicate? And could these 'creative research-methods' even lead to new ideas, creative thinking, maybe ideas the researchers themselves would have never thought of? As Punch (2002) said about research with children: "adults are unable to be full participants in children's social worlds because they can never truly be children again." (p. 322)

Many researchers have been doing studies with children, using all sorts of creative, arts-based research-methods. Ever since the 1920's (Goodenough, 1926), researchers have worked with children in their studies, using methods such as drawing, photographing, recording video's, building tents, making masks, working with picture-cards. Naturally, these studies are convinced that their own specific research-methods are excellent ways of getting valuable, reliable information, while at the same time (or maybe due to?) using child-friendly, child-centered methods in which children stay in their own experience, and can show the researcher what they consider important, instead of being influenced by what they think the researcher might want to hear. The study will focus on the research-methods drawing and photographing in studies with children. The claims of these two methods will be analysed, providing a useful guide for researchers to decide a research-method in their child-centered study. The word claims is being used instead of 'benefits', to clarify that the methods have no binary, and therefore mutually exclusive, values, but rather consist of pluralist values; claims (positive values), concerns (problems that worry people) and issues (neutral questions about the subject) (Guba & Lincoln, 1989).

This review will try to answer the question; What are the claims of creative visual research-methods in studies with children?

In this study, due to limited time and keeping the study as unambiguous as possible, the focus will be on the visual methods drawing and photographing only. Possible concerns and issues shall be pointed out in the discussion.

Many reviews have been written about creative research methods, but not yet focussing on the claims of drawing and photographing. This article will try to give a clear overview of the different claims of these data collection techniques.

Method

In Pubmed, when looking for this subject, several valuable articles came up. Most of them were reviews, which made them not suitable for this specific review, but very useful for snowballing to get relevant studies. Only the snowballmethod was used to select the final articles, but in the exploratory stage Pubmed was a useful database.

First, many different terms and phrases were used in order to get the most relevant results. The terms 'visual', 'arts-based', 'drawing', 'photo*', 'child' and 'research-method' proved most

useful. Using only 'child*' and 'arts-based' generated 24 studies. This list, however, contained many irrelevant subjects. Most early research using photography was for cultural anthropology research, used in order to communicate with non-English speaking peoples, like aboriginals. Since that does not complement this study's subject, these articles had to be excluded.

When excluding the terms 'adolescent', 'therapy', 'Nairobi', 'aboriginal', 'midwife', 'dance', 'charity', 'dementia' and 'faith', only eight results remained.

These eight items consisted of five articles with a subject slightly different from this study's focus, and three reviews.

Then, through snowballing with these three reviews and inquiring of experts in this field, several other studies came up. This is how a list was formed of nine relevant and useful studies to analyse in the results. The supplements will contain a list of the search history in Pubmed.

Inclusion and exclusion criteria were; the study could not be a review itself, so it had to be a qualitative research study. It had to use drawing or photography as a research method, so if a different research method was used, such as building tents, or if the drawing or photographing was only used as a therapy for children and not as a research method, the study had to be excluded. The study had to include children, at least partially, younger than sixteen.

Results

Four of the studies focus on drawing as a research method, five explore photographing as a way to collect data. The results section will be divided in a part that discusses the drawing-articles, and a part about the photographing studies.

Drawing

The first study that was analysed is *Drawing and showing: helping children to report emotionally laden events*. In this study Wesson and Salmon (2001) asked 60 children aged 5-8 about where they were happy, sad and scared. The children were asked to tell about these places through drawing, re-enactment and conversation. This study concluded that letting children draw lead to much more information than just interviewing the children. During drawing and re-enactment, it was found that children reported twice as much (verbal) information as did children who only used speech.

Similar results were found in another study, dating 5 years later. But Driessnack (2006) discovered something else as well in *Draw-and-Tell Conversations With Children About Fear*. In this study the researchers would interview children about fear, through drawings made by the children. The study was conducted on 22 children, aged 7-8. The 'draw-and-talk' sessions never lasted longer than an hour. The researchers found that by letting children tell about their fears through a drawing, the fear was more real and palpable, but also more explainable to the researcher. "Not only does it appear that the use of drawings increases the amount of information that children share (...), it also appears in this study that the nature of that information is different and potentially enlightening." (Driessnack, 2006, p. 1430)

In *Children's perceptions of illness and health: An analysis of drawings*, the researchers Mouratidi, Bonoti and Leondari (2015) worked with 347 children, aged 5-11 years, asking them to draw a picture of illness and one depicting health and name the two drawings. The youngest group had trouble distinguishing the ill and the healthy concepts. In older children it was notable that the children focused mostly on the biomedical aspects of illness, while health was also seen as a psychological state. The study also compared the children's drawings with drawings made by a group of adults, but since this does not answer this study's research question, these outcomes will not be discussed here. The researchers concluded that "knowledge of children's subjective perceptions of illness and health may be useful in designing health prevention programmes and for medical professionals working with children experiencing chronic illness" (Mouratidi, Bonoti and Leondari, 2015, p. 1).

An original way of collection data was shown by the study *'I didn't really like it, but it sounded exciting': Admission to hospital for surgery from the perspectives of children*, conducted by Ford (2011). This study was conducted in order to explicit the experience of

children that have to stay in a hospital. She let the 10 school-aged participants of her study decide for themselves how they wanted to contribute their perspectives to the study. This was done in order "to develop deep understandings of children's experiences" Interviews were performed on most of the children, in the hospital, at home or over the phone, all according to the child's wishes. Six of the children chose to use drawing and storywriting as communication pathways on top of that. The drawings, along with the interviews, lead the researchers to conclude that children would make more sense of their situation by "situating themselves within the phenomenon" (Ford, 2011, p. 255).

Photographing

Photo elicitation interview (PEI): Using photo's to elicit children's perspectives, a study by Epstein, Stevens, McKeever, and Baruchel (2006), was conducted on 35 children, who were 6-16 years old, spoke English or French and all suffered from cancer. In this study, the researchers took photo's, guided by the children. Afterwards an interview about the pictures followed. The researchers concluded that taking these photo's with the children was an ice-breaker activity, that stimulated the children to speak more freely.

This openness of speech was found too in a Viennese study on primary school children, although they found an interesting difference in age perspective as well. *Pupils using photographs in school self-evaluation* (Schratz & Steiner-Löffler, 1998) showed data of using photography as a data collection method. Small groups of children were asked to photograph positive and negative sites around their school as a team, construct a poster and finally, present this poster to the researchers. In this study, Schratz and Steiner Löffler showed that younger children, when sent out to take photo's, focused more on the artistic aspects of the photographing, and took pictures more for themselves. The older children, when choosing which sites to photograph, more often considered the consequences of their choices for the presentation each group would give of their collection. What the researchers found most valuable as an outcome of this study, was that the pupils, and the teachers, started to discuss "their individual perspective of school life" (Schratz & Steiner-Löffler, 1998, p. 245), thanks to the photo-exercise. Here, too, one can see a more open and free talking environment, as shown in the previous study. And similar results were found in an Ontario study.

In *Engaging young children in research through photo elicitation*, a study conducted by Pyle (2013), 32 children in the age of 4-5 years old, were selected from schools in Ontario to join in the research. The researcher started, before doing the actual research, by joining the children in their classrooms, thus acquiring a position which allowed open communication, by joining in their play rather than guiding it. This also served the purpose of understanding their age-group better.

The children were asked to take 2 pictures that they thought would be important to include in a book about kindergarten. Furthermore, three interviews were held with the children in small groups, in which they discussed which photo's to use for the book, and what text to accompany them with.

This article concluded that the children, through the use of photo's, had a much broader way of communicating their thoughts to the researcher. The children used verbal communication, in general and specifically about the photo's, and they used the photo's as a free-standing way of communication, but even children who did not use verbal language, due to, in one boy's case, autism, could still communicate their views to the researcher; "While the book he created was wordless, the photo-sorting activity provided the opportunity for Corey, a child who is not verbally proficient, to participate actively by selecting representative pictures and to communicate his perspective with me." (Pyle, 2013, p. 1555)

Playschool in pictures: children's photographs as a research method is an Icelandic study by Einarsdottir (2005) was conducted on 34 children, divided in two groups. The first group consisted of 22 children, they were asked to show an adult researcher around their early childhood setting, while making photographs of important sites with a digital camera. The second group was sent out solo to photograph on their own, using a disposable camera. The researchers concluded that using camera's is a child-centered and child-friendly way of doing research with children. Furthermore, it was observed that the first group, that had an adult tag along, had a different attitude during the exercise; they were showing around a guest, and

were more focused on the adult, and what they wanted to show their guest through the pictures, while the second group took photo's merely for themselves, and made pictures of whatever they wanted.

The findings that (younger) children were able to show whatever they wanted, were found too in a Finnish study. The study *Interactive and Child-Centred Research; Methods for Investigating Efficacious Agency of Children* (Hyvönen et al., 2014) consisted of 2 different methods, conducted on the same group of children. The first method comprised capturing children doing assignments on video, and later discussion these video's with the children, to find out when and why the children felt succesful in their assignments. Due to the fact that this part of the study was using video as a research method, and that the only real interaction between the researchers and the children consisted of interviews, instead of allowing the children to go make video's for themselves, it was concluded that this part of the research was not suitable for this paper.

The second part of the study, however, did contribute to answering the research-question in this paper, and is therefore included in this literature study. In this study a few children were omitted that did take part in the first part of the study. This left the study with 17 children, in the age of 7-9 years. The study was conducted in four Finnish primary school classrooms, at three grade levels; the first, second and third grade. The third grade group was the largest with 10 children, the second contained 5 children and the first only had 2. This time, the study set-up was indeed more child-centered by letting the children themselves collect the data; "... this time, children were responsible for conducting the observation protocol through a 'detective course'. Before the actual data gathering began, a detective course was provided for the children to engage and instruct them in how to act like detectives." (...) "That is, children were told that they would have detective equipment for tracking, capturing, and saving moments of success and achievement in their classrooms." (Hyvönen et al., 2014, p. 94) The children were able to take photographs and short video's of what they thought succes and achievement looked like.

Afterwards, an interview was being held with all the participants, using 6 standard questions, inquiring after the situation and why the children chose that site, and about succes and how it is represented in the pictures they took.

An example of a fragment of such an interview is listed below;

Example 4. Succeeding by themselves

Interviewer: Why did you take this photo?

Child: Well, we had a math class and my friend calculated one very difficult sum by herself.

Interviewer: Why do you think she succeeded in the task?

Child: She likes math and looks happy in the picture. Look, she is smiling. And she finished it.

(p. 96)

The researchers conclude that interactive and child-centered methods in authentic environments can in fact give children the power to show what they find important, and thereby "produce deeper knowledge about children's efficacious agency in learning contexts" (p. 82).

Conclusion/Discussion

Both drawing and photographing have several claims, according to the studies shown.

Children share a lot of information through drawing, not only in the drawing itself, but verbally as well, as said by the first article. The second article adds that drawing is a method that allows children to share their experience with the researcher in a vivid, palpable way. The third study found that drawings can show an adequate image of children's views on health and illness. The final drawing-study had a flexible attitude towards how the data were collected, and this resulted in a very complete, child-centered image of how children experienced hospitals.

Photographing can also be used to get more verbal information, according to the first three photographing studies. It can be a child-friendly way to break the ice and get children to talk more freely. The second study adds, that age can have an influence on how children handle creative research-methods. The third study points out that, even if the children can not communicate verbally, they can still share their views by using photography. Photographing can also be an excellent way of letting children follow their own interests in collecting data. In order to achieve this however, it must be noted that the children should be trusted to go out alone. When chaperoned by an adult, children tend to act more as a guide for the adult than follow their own lead, says the fourth study. The last study about photography states that children get the power to show what they find important when given camera's to show their perspectives.

All in all, this study has given a broad overview of the claims of drawing and photographing as research methods. These two visual creative methods make children feel more comfortable and empowers children to show the researcher their perspectives in detail, through the art itself, and through conversations with reference to these data. All these studies had decent methods, were clear about what had happened in the study and how they planned to answer their research question. Most of them had small samples, but this is customary in qualitative research, and does not necessarily have implications for the adequacy of the studies.

One study (Einarsdottir, 2005) however, showed that children can still be influenced by adults, when guiding them during the data collection. In order to get the results closest to the experience of the children, one should let the children collect data on their own. However, this could lead to results not relevant to the researcher's study, so in order to get the most relevant and efficient data, it might be advisable to stay closer to the children. A careful consideration must be made in order to do minimal harm to either interests.

Another study (Schratz) noted that, in collecting data, older children are being more concerned with the consequences of what they collect, instead of collecting whatever they feel like recording. In order to keep the outcomes as close as possible to the child's perceptions, researchers could instruct children on beforehand, emphasising there are no right or wrong data, and the children can just follow their impulses.

In my opinion it was a good idea to sit with children and join in their play as Pyle did in her study *Engaging young children in research through photo elicitation*. When introducing yourself as the research starts, children can easily think that the assignments given by the researchers are like any other school task; something a child has to do the right way, the way adults expect them to do it, in order to get a good grade or positive criticism. But by putting themselves explicitly in a similar position as the children, and not above them like a teacher, and by emphasising there are no good or bad results, I think one can diminish that bias, at least partially.

When reading Karen Ford's research, I noticed something odd about the article, and one of my concerns (in the sense of claims, issues and concerns, as mentioned in the introduction) for creative methods came up. In the results, only one drawing is shown, while the article states that 6 children had made a drawing. Personally, I think it is very important when using drawing or photographing as a data collection technique, that the actual data are being shown. Everything a child draws is objective data as long as it's not interpreted by anyone (Brown, 2016). Naturally, when the researcher starts to draw conclusions from that drawing, it's not objective data anymore, but rather subjective interpretation. This interpretation can be very close to the 'truth', but in order to keep the article as clean and unbiased as possible, I

would always recommend to add these data, that are rather vulnerable to interpretation i.e. drawings or photo's to the text.

Now, naturally, one can argue that everything a child draws, tells, photographs, or in any other way hands down as data, is already biased, due to the fact that children and their views are very vulnerable to influences from those around them. Personally, I think there is definitely some veracity in this point of view. Nevertheless, I also think that, however independent adults think they are, every single human being is formed by it's surroundings, and no human is capable of thinking completely self-reliantly, independant from any influence from outside. And even if a child is influenced by their family or other surroundings, if a child feels that way, at that moment, than that is the truth one must deal with. For example, when a child has very over-caring parents, who cause the child to be more afraid in a hospital than necessary, the situation of a scared child does not change. If a research then finds a scared child, that is the 'truth' at that moment. However, when the views of a child do not (yet) match the views that the surroundings want to 'force upon' that child, I do think that, by using creative methods, one can partially filter out these by surroundings imposed views. When parents try to impose an opinion on their child, but the child does not share this opinion completely (maybe even unknowingly), then a child could fall back on words and sentences it so often hears from it's parents, even though it might not even understand the full meaning of these words. But, when one lets the same child draw, it is possible that the child will stay true to the images in it's head, and therefore, to it's own perspective. Results from research on perceptions of persons with intellectual disabilities compared with their parents/relatives views give way for this statement. Claes et al. (2010) indicate that measures of self-reports by persons with intellectual disabilities should not be replaced by so-called 'proxy-reports', often given by parents, because they can differ.

An issue that came to mind when conducting this research was, shouldn't these creative methods be used more frequently on adults as well? One of the reasons researchers started to explore the use of creative methods on children, was the idea that adults can never really understand a child's mind since they are no longer children themselves. When following this argument, creative research methods should not be necessary on adults, however, creative research methods could have benefits for adults too. People tend to understand the line of thought that children do not respond very reliably to pages-long questionnaires, or to semi-structured interviews with scary-looking doctors in clean white rooms, but who's to say adults do react to those methods in the most sensible, truthful way? Some research on adults (Fraser & Sayah, 2011) and adolescents (Christian, Pearce, Roberson, & Rothwell, 2009) has already been done using creative methods, but whether this gives more reliable results than conventional methods, isn't clear (Perry, Maffulli, Willson, & Morrissey, 2011). I would recommend trying to research how adults react to creative methods, and whether the outcomes of these methods are in fact closer to what they wanted to show than the outcomes of the conventional methods.

Limitations

This study has only focused on the claims of visual data collection, and has given little regard to the concerns and issues, these were only mentioned in the discussion. It has also left out a lot of creative data-collection categories, like video voice, mask making, tents building, sandplay, picture cards. Therefore, this study is a good article to consult when researchers consider using drawing or photography in their study with children, and they want to understand what the benefits of visual research-methods are, but when one would want to differentiate between the many different types of creative data-collection techniques, this study is not conclusive. Unfortunately, the four weeks reserved for writing this study, did not allow a broader subject.

Only nine articles could be found doing actual research, while tons of reviews have been written about this subject. Some of the articles that provided actual data were very old. I only used Pubmed and Psychnet to search for articles, by Psychnet added nothing new, and Pubmed was only useful for snowballing. If I had used more databases, maybe new or more articles had come up. It stroke that nearly all of the articles found, turned out reviews. Very

little actual research was done to these creative methods, compared to how much has been written about it in literature studies. Initially, I wanted to discuss sand-play as a research-method as well, but when it became clear that the only research done in that field was on sand-play as a therapy and not as a research-method, I had to cancel that. Therefore I would strongly suggest that more, and more recent research should be done on creative research-methods. I was interested to find out which research-method gave the most reliable results, but this, too, was under-represented in currently existing research. Comparative studies, especially studies that compare several creative methods with conventional methods, and focus on how 'close to the truth' these outcomes are, as far as that is possible to research, can add valuable information to the field.

Conclusion

Both drawing and photographing appear to have many claims, and can be very beneficial to performing child-centered research that gives substantial information about children's perspectives. However, concerns are that interpretation plays a bigger part when working with data other than verbal methods. The question arose why creative methods are not being used on adults more often as well.

John Cleese's statement comes to mind when expressing the final conclusion: Creative methods let the creative minds of children use their facility to play, and by doing so, adults might learn something new.

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