

# Information literacy in early childhood

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## Abstract:

*This paper describes a methodological approach towards studying information literacy in preschoolers (age 3-6 years). As information literacy gains more and more importance, its representation in young children becomes a particularly interesting aspect. Also young children are more and more confronted with media, whether they want to or not. Therefore, it becomes also more and more important to raise awareness of how to deal with them and make children early information literate. Technoliteracy is a subject in the educational context of preschoolers. Technoliteracy, media literacy and information literacy cannot be separated from each other. Especially with regard to the information literacy of young children, we have to consider also media literacy. Young children lack basic elements such as reading, writing and arithmetic, which are necessary for information literacy in general. These aspects can indeed be converted into viewing, painting and counting, but it is in addition necessary to focus strongly the behaviour with media in the childhood context. We developed a method for determining information, technoliteracy and media literacy, planning to perform an analysis with children, their parents and their nursery nurses. Hence, we use three different methods to study three different levels. Especially the analysis of information literacy of children poses a challenge. It's not possible to get information with the help of simple questionnaires or dry interviews. Here we plan to use puppet interviews and other playful approaches. This is a playful way to gain information about the subject. In the adult context we plan to use semi structured interviews and questionnaires. These analyses take place across different nurseries in Düsseldorf and Hong Kong. The study is planned as an international comparison between China and Germany.*

**Keywords:** *Information literacy, Kindergarten, Childhood Studies, media literacy*

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## **1) Introduction**

In this day and age children - even in early childhood and before they enter primary school - are being confronted with media daily. Since it is not possible to keep them away from media completely, the importance of the promotion of information literacy skills is beyond question.

A few years ago after effects as for example aggressiveness, lack of concentration or reading disabilities have been ascribed to young children after even minor exposure to digital media (Spitzer, 2005). Today we know better: A moderate and guided exposure to media will have a positive impact on children's education (Yelland, 2010). But to prevent negative effects due to excessive or otherwise improper media consumption children have to learn to competently, responsibly and critically deal with the subject early on. Today a wide variety of educational options is available to not only support the learning process but also to work on possible learning weaknesses. With the help of media new and old, cognitive and linguistic skills as for example listening, memorizing, recognizing, retelling and understanding can be improved in a playful way (Neuß, 2013). In Germany, more than 93% of all children ages 3-5 are attending nursery school (Statistisches Bundesamt, 2013). Here, in cooperation with parents and families, an educational environment for information literacy can be created.

## **2) Information literacy in general**

There are some different views on information literacy. Information literacy in the classic view was born in the library sector. Here you already find some standards, which are very useful for e.g. higher education (ALA, 2000) or students in school (Gust von Loh & Stock, 2012).

Also in Germany the field of information literacy is very broad. Therefore we developed our own model at the Heinrich-Heine University in Düsseldorf. In general we speak about Information literacy in everyday life:

1. Information literacy at work
2. Information literacy at school
3. Information literacy in early childhood education



### 3) Information literacy in Kindergarten

In Germany we find different kindergarten. We find public kindergarten with urban and ecclesiastical carriers and private kindergarten, where the carriers are different. Private nurseries are very expensive and often especially for the youngest children (age 0-3 years). So most of the parents are interested in having a place in a communal or church nursery. For our study children from 3 to 6 years are interesting, so we neglect private nurseries. For getting a better understanding of which are the important aspects in German Kindergarten we consult the general curriculum of kindergarten. This curriculum varies from state to state. Düsseldorf lies in the state of North-Rhine Westphalia, so we choose that state, because we plan to make most of our studies in Düsseldorf or in other cities of North-Rhine Westphalia.

Basic competences are (Ministerium für Familie, 2011):

1. Self-skill
2. Social skill
3. Professional skill

The requirements of nurseries are very versatile, including scientific and mathematical education elements as well as aspects of language training. Physical aspects, such as movement, healthcare and alimentation, are important, but topics like religion or ethics should also be learned by the children. We can divide the tasks of nurseries in general into four aspects:

1. Movement
2. Play, design and media
3. Nature
4. Natural and cultural environment

As we can see we find media as one point in the curriculum. Nevertheless working with multimedia is not usual in kindergarten. Often there are not enough infrastructures in the field of media as for example computers etc. Books are also a media in Kindergarten. Another problem in the field of media education in kindergarten is the education of kindergartners (Six, 2009, Schneider, 2010). They often feel uncertain on how to teach media in early childhood. We see that media education in early childhood is a rather difficult and rare thing in Germany. There are some offers from for example Anstalt für Medien NRW (e.g. there is a newsletter for nursery nurses, where they find ideas about how to deal with media or it is possible to order an employee with a mediabox for visiting the kindergarten (<http://www.meko-kitas-nrw.de/>) especially for kindergarten), but these offers will be used by kindergarten only infrequently. For this situation we plan to make our study. We hope on the one hand to get an overview about the information and media literacy in early childhood and on the other hand to understand what can be done in kindergarten for

supporting children to move in media environment and for supporting also nursery nurse to mediate new media.

A big problem for information literacy in general is that if we consider the Düsseldorf-Model (Fig. 1), a child aged 3 to 6 is not able to read, to write and to do arithmetic. So we modified our model for very young children.

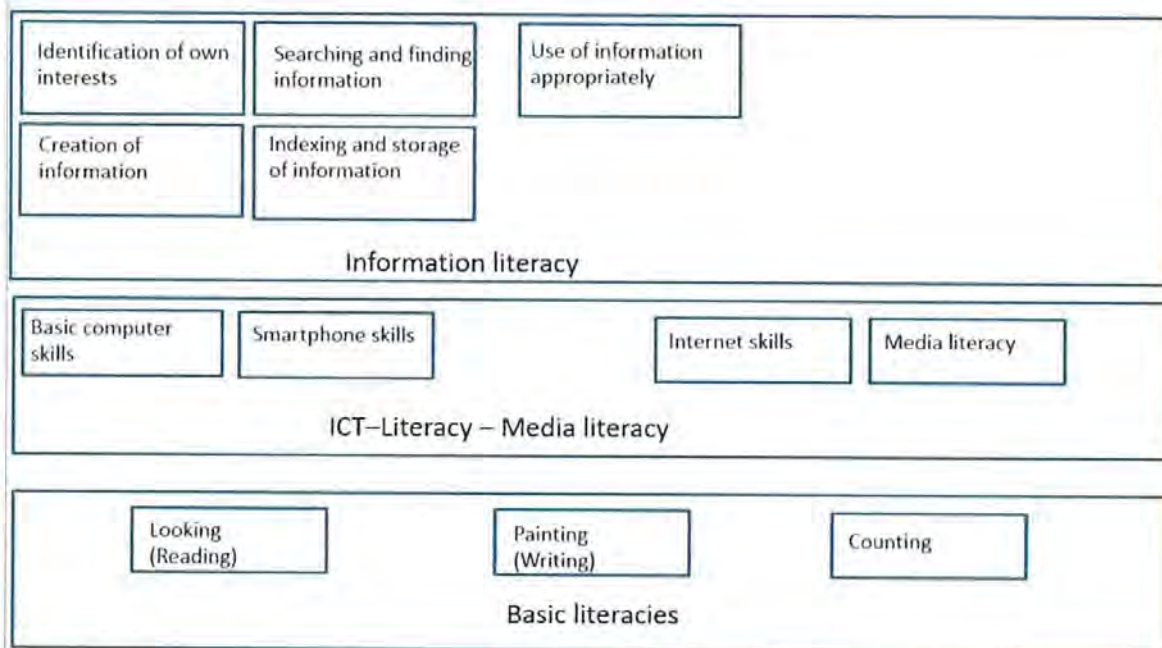


Fig.2: Levels of information literacy for children

We see that especially basic literacies changed. Instead of reading we chose examining; instead of writing we took painting and instead of arithmetic we chose counting. Most of the children between three and six years are able to perform these aspects. On the second level we do not find the aspect "office software" anymore. This point is in general not interesting for small children. They use at the most Power Point for designing a presentation of themselves. The highest level lost two aspects. On the one hand we do not have "review of information" and on the other hand the two aspects of information privacy were removed.

Also in scientific literature you find evidence that information or media literacy is already important in early childhood. We can divide important literature into three aspects. The first aspect is doing research with educators. In these studies it is interesting what nursery nurses do with media or what aspects they learned in their apprenticeship (Schneider, Scherer, Gonser & Tiele, 2010; Six & Grimmeler, 2007; Großekathhöfer, 2007). The second aspect is about the parents. Here the children are the focus, but are not interviewed themselves. Most of these studies are very practical. It is interesting, how media use in kindergarten is useful (e.g. Aufenanger & Gerlach, 2008). Studies with children are very rare because it is very



difficult to interview them. Here we need special techniques, for example puppet interviews (Weise, 2008; Paus-Hasebrink, 2005). For most studies the TV is the main aspect (e.g. Feierabend & Mohr, 2004). For our project the study of Marci-Boehncke et al. (2012) is most important. They launched a project of four years (2010-2014), which is supported by IBM and the city of Dortmund. The study will be conducted in kindergartens of Dortmund. The project aims to investigate media literacy of children and educators. By means of semi-standardized questionnaires, qualitative interviews and participant observation they get information from parents, educators and children and their use of traditional and new media, social behaviour and development of skills. The main question of the study is the use of media in the family (Marci Boehncke, Raht & Müller, 2012, 11).

### **3.1. Practical Work in Düsseldorf with small children**

Every library in Düsseldorf has a section dedicated to children. Here not only books, audio books and comics but also DVDs, computer games and parlour games are being offered to borrow. In contrast to adults who pay an annual fee of EUR 20,00 children do not have to pay for a library membership. Libraries in Düsseldorf offer a few programmes for children younger than 6 years old. There are readings, puppet theatres and movie screenings occasionally. Kindergartens can make use of the guided tours and of themed media boxes filled with CDs, DVDs, games and instructions.

The state of North-Rhine Westphalia is still working on establishing several projects for the promotion of media literacy in Düsseldorf. The "Lesestart" programme is aimed at children 1, 3 and 6 years of age where they receive a set of reading material to stimulate the habit of reading in families.

An initiative under the name of "Medienpass NRW" has been introduced to North-Rhine Westphalia in 2012 to on the one hand support teachers and on the other hand animate students in primary and secondary schools. Here, the goal is the promotion of a "self-determined, critical, productive and creative" interaction with traditional and digital media (Medienberatung NRW, 2014). Unfortunately this programme consisting of three parts - a competency framework, a syllabus guideline and the actual media pass for students - is not available for kindergartens.

## **4) Research in Kindergartens**

First we want to study German kindergarten and their children in respect of media use. In this step we would like to compare these results with results from Hong Kong.

It seems likely that kindergarten in Hong Kong are totally different to German kindergarten. The program in Hong Kong Kindergartens is more restrictive. Kindergarten in Hong Kong have other basics than German childcare facilities. It seems to be much stricter for the

children. For example, there are entry tests for acceptance to the nursery. Children have to sit through an interview in which they must perform a language test and demonstrate their social and cognitive skills (InterNations, n.d.). These tests are found in private but also in communal nurseries. For the Hong Kong parents it is very important where their children go to kindergarten, because these institutions can also decide where their child will go to school. There seems to be extreme pressure on parents and children because it is very important where the kids go to school. Private schools have a good reputation. To be accepted at a particular private school, it is often essential to pick the right nursery from the start. The focus of work in kindergarten is the promotion of ethical requirements, physical and social skills, preparing children for life and developing their interest in learning. Consequently, there are reading and mathematics and nature corners, but also Art and Crafts Corners, Music Corners, Home Corners etc. These corners should facilitate self-learning (Government of the Hong Kong Special Administrative Region). There are four different focuses for the Hong Kong kindergarten:

1. Physical development
2. Cognitive and linguistic development
3. Affective and Social Development
4. Aesthetic Development

In these four dimensions we find six more concrete aspects.

1. Physical fitness and health
2. Language
3. Early mathematics
4. Science and Technology
5. Self & Society
6. Arts (The Curriculum Development Council, 2006, 21)

We see that some aspects are nearly the same but others are not. To make this comparison, we plan to analyse the data with the help of SPSS.

For studying German kindergarten we have to choose some kindergarten where we are allowed to conduct a study. In Düsseldorf you find different providers like Diakonie, City of Düsseldorf, Caritas and DRK (German Green Cross). These are some of the public providers, in addition to that we find many private providers. These private providers are mostly for the youngest children (4 month up to 3 years), so these Kindergartens will not be so interesting for our study.

The study will be carried out at three different levels. The first two levels, parents and educators, are relatively simple. With these groups we can perform conventional qualitative interviews on the one hand, on the other hand we already started with an online survey for

parents. This first step will determine what media is interesting for children and what media is used by small children. Questions in this survey are aimed at the media behaviour of parents and children. This survey comprises questions about the favourite medium of the child and of the parent, how the interaction of children and parent with media looks like and what games children play, if they play games. Another part of the survey are demographic characteristics. Here we find aspects like immigrant background, lone and educated class.

The benefit of such an online survey is that a lot of people have the possibility to complete it. We distribute the online questionnaire to friends and acquaintances, in kindergartens and we post the link in various forums about small children and education on Facebook.

The second point is to identify how children use information in respect of different media and in general. This will be the greater challenge, because to work with children or to get information from them about their media behaviour will be very difficult. The only way to get this information is to ask children in a playful way. Therefore we plan to do puppet interviews or other little games.

The development of the questionnaire is based on an existing prototype questionnaire for seventh-graders (Beutelspacher, 2013). This questionnaire was also developed at the Heinrich-Heine University. It is designed for the area of information literacy and includes seven areas

1. Identify information needs
2. Search and find information
3. Evaluate information
4. Information use
5. Organisation of information
6. Communication and publication of information
7. Responsible use of information

It goes without saying that only some areas for toddlers are interesting. Especially point 1 to 6 is interesting in the context of toddlers. Point seven is interesting in correlation with parents. A question here could be if parents use a child safety lock or not.

The first aspect of information need can be reformulated in the context of children and is more concerned with the interest in certain information. It's about what a child does not know or what information it asks in a particular context. In order to clarify this first aspect, a particular question can be formulated and it can be seen how the child communicates with others or with whom it communicates to repay to the information needs. For studying this behaviour, the best thing is to do a participating observation.



For searching and finding information it will be interesting where a child searches for information, for example is the child looking for a book or for some picture. In this context it makes sense to give the children the possibilities to look up with the help from different media, e.g. some classical media like books or pictures or new media like Internet or Tablet. Also in this context it will be interesting what children do if there is nobody, a mother or another person, to ask about it.

For the third aspect "Evaluating Information" we plan to do some games where the children have to decide whether a statement is right or wrong. Here we thought about two possibilities:

The first one is to take some examples from the literature e.g. from tales, which are known. On this basis, the children have to classify and evaluate different contents. They have for example to say if something is wrong or right.

Using Information is the next step. Here it will be interesting to apply what they have learned. Some kindergartens have for example a library where children can choose a book for two weeks. Here it could be interesting, how children choose these books. Another aspect could be to retell something they heard about.

Another big aspect is the organisation of information. We can say that every child has the ability to do this but it depends on the child how it will do this and in what range it is able to do this. For getting some results about this aspect, we plan to make a "Children-Thesaurus". With the help of this thesaurus, we get some information about mapping information on various topics and areas of knowledge. Another possibility could be to work with different memory games. With the help of these cards it will be possible to test the ability to match different aspects.

For communication and publication of information we plan to make a PowerPoint presentation with some children. With the help of this approach we can study two things. At one hand we have a look at the use of computers and at the other hand we have a look at the ability to choose information about themselves. Another possibility is to work with tablets and pictures or with tagging.

Puppet interviews are another possibility. Using a hand puppet, one playfully approaches the children, approximating the child's own level and thus becoming able to lead meaningful conversations. The level on which we conduct the interview is less asymmetrical (Paus-Hasebrink, 2005, p. 224). The advantage of a hand puppet is that since it is a well-known toy, kids can see the interview as a kind of role-playing game (Weise, 2008, p. 4). The first step of the interview will be to choose a hand puppet, which must be neither too small nor be too large. 40-60 inches is the ideal size, allowing the interviewer to totally take on the role of the puppet. After that, the researcher must develop a guideline for the interview,



where possible in collaboration with the target group that is in the same age group as the children.

## **5) Discussion**

As we know media and also information literacy are very important in early childhood. We have to learn how to lead young children to a useful use. We do not have the possibility to keep children away from media, because they find it in everyday life. For sensitising parents, kindergartners and children to the right use of information and media, we developed our approach introduced in this paper. In comparison to Anglo-Saxon countries and North America, where information literacy is more present in kindergartens, it still has held no entrance into Germany and neither has in a lot of other countries. Only media literacy you find in rare cases in German preschools.

We have yet to find out how kindergartens in Germany will react to research on younger children in their facilities and if their technical, spatial and personal infrastructure allows the proper teaching of information and media literacy. Also, a test run in one of our nursery schools will show to what extent children are able or willing to cooperate in order to generate useful data for our research. In the end we are hoping not only to acquire information on their usage of traditional and digital media but also to get more insight on how to support their early educational development in a modern society highly influenced by media of all kinds.

## **Acknowledgments**

We thank Stéphanie Koglin-Bühnsack for their valuable support in our project Information literacy in Kindergarten.

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