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HOW DO CHILDREN READ BEFORE BEING ABLE TO READ?
TOOLS FOR RESEARCH

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Abstract

This research focuses on initial literacy. We conceive reading as a complex cognitive process that involves many skills; it does not only include the capacity of decoding letters but also the ability of selecting, understanding and interpreting a text critically and taking into consideration pragmatic factors. Our study is based on literature about reading acquisition in early childhood and Frith's description (1985) of the steps that the child follows when they learn to read: the logographic, the alphabetic and the grammatical phase. We realized that there are lots of abilities required before children enter the first phase (the logographic, in which they already show interest for letters). In order to study this previous learning process, we have been observing and recording two-year old children interacting with books and we have designed a specific methodology to analyze the evidences of this early literacy. Our main hypothesis is that children acquire lot of relevant competences related to reading (and writing) before they really start decoding letters, words and sentences. We will describe these skills grouping them in three categories: mechanical skills, symbolic skills and narrative skills.

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1. Introduction

Considering reading a complex cognitive process that involves many skills and that cannot be only reduced to the capacity of decoding letters but also to the ability of selecting, understanding and interpreting a text critically and taking into consideration pragmatic factors (Solé, 2010: 1), we introduce a research focused on initial literacy.



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Our study is based on literature about reading acquisition in early childhood (Ninio & Snow, 1986; Nodelman, 1988; Lewis, 2001) and the description of the steps that the child follows when they learn to read: the logographic, the alphabetic and the grammatical phase, described by Frith (1985). In previous researches we realised that there are lots of abilities required before children enter the logographic phase. In order to study this previous stage of written language acquisition, we have been observing, recording and analysing two-year old children interacting with books and we have designed a specific methodology for this purpose. In the following pages, we introduce the results of research: on the one hand, the description of the reading skills that a child acquires in its first contact with books and literature. These are described in sequenced stages from a constructivist perspective: therefore it is a descriptive approach, not prescriptive. On the other hand, we also describe accurately the methodology we have designed, so that it can be used by future teachers as a strategy to learn from practice and to develop their first field researches, since we consider that innovative educators have to be also researchers.

2. Theoretical Foundation

Learning to read is a long process since it does not involve only the acquisition of linguistic skills. This process includes the capacity of decoding (relate each letter with its sound) but also the ability of giving sense to texts taking into account graphic, contextual and pragmatic evidences.

Frith (1985) and Fons (2000) describe the process of literacy acquisition in three phases:

Logographic stage: In that phase children show interest for letters and texts. They recognize graphic codes globally, and make a difference between pictures and text; they also start to set some general relationships between oral and written language. They might be able to recognize some common words they often see, as their written names and some logos. They try to extract information from texts, so they use all resources available: the drawings beside, the formats and typographies of the text, the context, etc. The adult or coreader is his/her mediator and he/she is frequently asked: "What does it say, here?" Children in that phase mimic the act of reading, since they start being aware of its importance.

Alphabetic stage: Children acquire the phonological conception of reading and it enables them to decode; they start summing up phonemes to construct meaning. They understand that each letter represents a sound and that the selection and order of letters in a word is relevant. At the beginning of this stage confusions are very common. They will start being autonomous readers, although at the beginning they have to concentrate in decoding, which makes it difficult to focus on the meaning. So they keep on using graphic and contextual evidences to construct meaning. In this moment, it is socially considered that they can already read, although they would still need strong help to become expert readers and understand the great variety of existing texts.

Orthographic stage: Children, while decoding, cease to focus on the individual letter-sound relationships. They do not decode letter by letter and start reading globally (recognizing morphemes and words). They would only use letter by letter spelling when they find unknown, technical or odd words. They begin to understand the text's syntactic and semantic features. They sharpen their search for meaning.

Frith conceives these stages as reading strategies too, and although they are learnt sequentially, expert readers domain all of them and could use the previous ones in specific situations: "The aforementioned three strategies are hypothesised to follow each other in strict sequential order. Each new strategy is assumed to "capitalise" on the earlier ones." (Frith, 1985: 307)

Picturebooks initiate children in visual, linguistic and literacy acquisition from early ages on, though there is insufficient investigation done, especially regarding cognitive processes in the first years of life. There are strong evidences that one to five-year-old children who read picturebooks (with the help of adults or coreaders) improve their vocabulary and their understanding of symbolic languages (pointing-naming game), as well as the improvement of conversational and narrative skills through dialogic reading -conceived as a democratic discussion of texts, a cooperative and critical reading strategy. As Kümmerling-Meibauer & Meibauer (2013) point out, most research on picturebook reading and literacy acquisition is approached by joint reading situations. These investigations establish connections between early reading practice and later literacy learning outcomes. The specific verbal interaction seems to be strongly related to later skills in reading and writing. Results stress out that children, who since early ages had frequent contact with picturebooks have acquired language competences and have less difficulties in reading and writing acquisition in later stages than those who have not or barely have read (Kümmerling-Meibauer, 2012). They are also more used to the symbolic significance of literature and are introduced to meta-linguistic and meta-literary phenomena. These learning processes start previous to the orthographic stage, since children are interested in books, symbols and stories long time before they show interest for letters. Therefore children could start their literacy acquisition in a subtle but fundamental way very soon. Our research focuses on these first stages and describes how children acquire their first reading skills.

3. Author's Contribution on the Existing Theory

3.1 A new Methodology for a New Research in Early Literacy

This research is set up in a context of constructivist education, using active and participative methodologies. The aim of researchers (and also of the school where the investigation was carried out) is that pupils are conductors of their learning processes that they learn through experimentation and exchange, mostly in moments they themselves decide. Consequently knowledge, understood as vast, debatable and constantly evolving, is constructed in collaboration and interaction of all education agents (teachers, families, children...), and stimulating materials and it is therefore to be seen as a collective and solidarity phenomenon. We should understand this research as a way to coach knowledge construction from an initial improvised and casual contact to a more rational and coherent one.

Having this theoretical framework into account, the role of the researcher is to observe and analyse how children interact with books and try to find out what they learn from these first reading activities. It is not easy, since children from one to five years -the age group we focused this research on- are also learning to talk and to move; reading is thus one of the many communicative skills they are developing. Therefore, the researcher will have to be able to detect different kinds of evidences: verbal evidences - what children explain or ask about the book they are reading-, but also postural evidences, gestures and facial expressions: how do they manipulate books, what images they are pointing at, what do they find disappointing or uninteresting and leave apart, etc.

It is very important to develop the research in a rich context, with a great variety of books and picturebooks that would stimulate children to explore them and consequently allow them to take their first steps in literacy. So, the creation of an alphabetizing atmosphere is an important requisite that can involve researchers, teachers and children.

The way we record and analyse the data obtained from practical reading experiences is inspired in clinical didactic methodologies (Rickenmann, 2006). This research methodology -based on Habermas theories- conceives education as a communicative phenomenon and focus on the analysis of interactions, but not only verbal ones: Vernant (2004:88, quoted by Sensevy, 2007: 7) underlines that there are *intersubjective exchanges* (dialogic interactions between teacher and learner/s and between learners and learners) but also *intramundane exchanges* (the relation of learners with learning conflicts; books, in our case). Nevertheless, our research focus on the learning gestures of children and keeps the analysis of didactic gestures of teachers for future investigations.

These are the steps followed in our research:

Table 1. Methodology

Stage	Description	Factors
0. Fix the sample	Connect with a school interested in promoting research and a group of learners aged 1-5 years to be visited during 4-6 sessions of 30-40 minutes.	It is important to know some relevant characteristics of children related to this specific research, mainly their age (years and months), if some of them have learning difficulties and their familiar language (in case it is different from the one used at school).
1. Create the conditions	Generate a stimulating space with eclectic books that invites children to explore them.	<p>Researchers (together with teachers and children) create a book corner in the classroom that helps to introduce children in book reading conventions. It is a place where they can examine, explore, try, play, concentrate and entertain themselves. This way, children have the chance to develop their reading skills in an arrhythmic and asynchronous way (Borghi, 2005).</p> <p>The material's choice is fundamental to this research. Offering a large variety of books for the young readers allows us to compare those which were chosen more frequently and analyse those which were not used, minimizing external alteration. The conclusions give us an idea of preferences and may indicate picturebook resources which support literacy acquisition.</p> <p>Every book provides a different reading experience. It is not the same to read in a big format book, above which the child can lay almost entirely, than a small one, which has to be held with both hands, close to the eyes to be able to decipher all details; crowded pages require different skills than those with a single depiction; etc. It is important to offer an eclectic sample of books. Any part, as shown in the previous examples, is meaningful. While reading, children might focus on any part, getting to know the different components of books and understanding what belongs to the story, in which way, and what not?</p>
2. Read with children	Invite children to read in the space designed in four-six sessions.	<p>Even though there is a great amount of individual learning in book corners, it is a space of social constructivism (Vygotsky, 1978), where children undertake simultaneously similar activities and learn one of the other. The ways of reading and adapting roles are interesting to observe, as reading together or simultaneously the same book; reading for or listening to other children and mediators; or even reading alone but as if somebody was listening.</p> <p>Punctual activities help to focus on certain aspects of literacy acquisition. It is a moment of joint and shared learning, where space for mutual observation and interaction is given. Children's reflections give indications of their learning process.</p> <p>Dialogic reading in small groups enables to focus on topics, literary devices (intertextuality, irony, sequenciality, metaphor...), contexts or literary skills. To achieve the wished outcomes it is important to know the book or story very well, premeditate possible moments to hold on and ask questions, and having imagined diverse interpretations. Though, while doing the activity one must be flexible and improvise in unexpected reading situations, always considering the child's interpretation as a thread that can be followed and take advantage of those interactions as a source of information.</p> <p>Furthermore, creative activities might help to translate these experiences and give children a tool to understand them better and construct their own</p>

		<p>stories. Just to name a few ones: role play gives them the opportunity to connect with the characters; making a game book with photos of their faces might make them aware of the book's representational character; constructing scenarios reflects the importance of settings; objects of the story might be given to discover alternative narratives by playing. Any workshop can be adapted to dig deeper into literary productions.</p> <p>Developing this research in small groups is essential. On the one hand it is easier to observe fewer children to find out how they conceive literacy. On the other, collective knowledge acquisition is more favourable with fewer pupils, since it enables face to face situations and dialogical interaction with adults, which inspires new considerations (Borghi, 2005).</p> <p>Reading sessions don't have to be very long: depending on the age of learners, they can take from 20 to 40 minutes and they should alternate individual and collective activities</p>
3. Record the sessions	Record interactions with a camera.	It is important to combine general plans and specific zooms to a child or group of children exploring a particular book. Pointing activities, labelling, gestures and expressions are relevant: an exhaustive recording of the session is not possible; the camera will have to choose constantly among the simultaneous interactions children are carrying out.
4. Select and analyse the recordings	<p>Select relevant interactions of children with books; analyse their gestures, expressions, dialogues in order to deduce what they already know about the books and the act of reading and what they are learning.</p> <p>Elaborate a hypothesis about early literacy (in our research).</p> <p>In future researches lead by teacher education students, amend or confirm the hypotheses rose in the following section.</p>	<p>Some relevant factors have to be taken into account in these analyses:</p> <ul style="list-style-type: none"> - Is it a situation of selection or a reading situation? - Does the child read alone, together with other children, or with expert readers (the teacher, the researcher)? - Is the child interacting, giving verbal or non-verbal evidences of the act of reading? - What does he/she read (pay attention to) and what does he/she neglect: does he/she only search for a specific element in each page? Is he/she interested in one only page? Is he/she pointing with the finger? - What type of materials do children choose and read? Do materials make a difference in the way a child reads?

3.2 First Results for Further Investigations

Our main hypothesis is that children acquire lot of relevant competences related to reading (and writing) before they really start decoding letters, words and sentences. We will describe these skills grouping them in three categories, which are developed concurrently:

Mechanical skills: Children discover the books as a singular object (or toy) of joy that enables them to enter other worlds; they learn to distinguish it among many other objects, they identify its characteristics and how to use it (and how it should not be used): a book is meant to be looked at, it cannot be squeezed or bitten, sit on or be thrown away. In higher steps, children find out that books have a front and back, an upper and lower part, and they must be held in a certain direction; pages are to be turned one at a time and they have a specific order and a reading direction. After many reading experiences, children will also realise that each page has to be understood as a conceptual space, one must be able to differ one page from a double-page spread, and usually read them sequentially.

Symbolic skills: Children understand that their world but also other realities are represented in books in different ways, using specific codes and languages. They realise that our common world is reflected somehow in books, but they follow other specific rules. This conceptualisation process usually starts with pictures (rather than with letters). Therefore, they have to understand the representational function of pictures, and the most common rules: things are represented in a smaller scale, without movement and

sounds, on two dimensional surfaces, often painted in simple forms, colours and shades, and (specially in the first books) detached from any background, as floating in space.

Narrative skills: Children understand that books are about words, about verbal language. They will start labelling the depicted objects, describing the actions, setting up hypothesis of what happened and what is going to occur, adapting those in correspondence to the narrative development, identifying narrators, counterbalancing text and image. They will realise that parents and teachers often use a much more elaborated language while reading books than the one used in other activities during the day (Snow & Ninio, 1986), providing complex sentence structures, direct and indirect speech and various modalities, among others. That would aim them to discover the existence of letters (the part of the book that encloses this complex speech) but these narrative skills are mainly developed by children orally, with the help of an adult co-reader; and further on they will find out that stories -action, causes and consequences- are also contained in books and will develop a great capacity of following and understanding complex plots, with beginning, middle and ending (even though they are not able to read or they are not even interested in letters).

By analysing relevant pieces of the recordings, we are able to detect which skills the child is acquiring and in what grade. These analyses give the teacher information about how to keep stimulating children to manipulate books, understand their symbols and to be able to understand and enjoy stories with each time more complex plots (both visual and verbal stories; with the help of an adult and autonomously). These are some examples of analysis of videos that support our theory, among many others.

Acquiring mechanical skills:



Fig. 1. A three-year-old girl supporting Kveta Pacovska's *La Merienda* as a teacher, although she wanted to read it on her own.

This girl is learning how to hold and handle books. Since she follows the teacher's procedures, she opens the book so that it can be watched by others although she wants to read it by her own. She will have to learn that the posture we adopt while reading depends on partners and changes if we read individually, in little groups or for others.

Acquiring symbolic skills:



Fig. 2. A two-year-old girl pointing at single images of *El viatge d'en Max*, by David Gauthier and Marie Caudry.

In this photo we can see how the girl is able to point, identify and label many different elements in the book.

Another example shows a reading situation where a girl interprets the book's blank spaces as snow, and starts searching for it in each page: "Look here, there is also snow!" -she says. "And here too", she repeats in the following page. Thus, she makes a hypothesis of the symbolic meaning of the white that does not work in most of the cases. Blank spaces do not always have a specific meaning, in some picturebooks they are only used as background. The girl seems to be interested in one single element probably because she is not used to look at complex images like these ones.



Fig. 3. Pages of *El globus groc*, by Charlotte Dematons.
 Only in one of them the white colour represents snow.

Acquiring narrative skills:



Fig. 4. Children reading and discussing *La Estrella de Laura*, by Klaus Baumgart.

Another piece of recording shows children rereading a book which the teacher has often read to them. Although they are not able to read the letters, they are aware that the book contains a specific story. They are trying to remember what happened in each sequence with the help of the images.

These analyses would help teachers and future teachers realise that toddlers and young children are making great efforts to understand the act of book handling and interpretation. Many assumptions are built and rejected constantly in a very rich and complex cognitive reading activity, although letters are not necessarily involved in it. All these cognitive learning processes have to be studied deeply.

4. Conclusions

Our contribution describes the results of this research about early literacy and offers an effective methodology to develop further investigations in this field that can be applied by teacher education students, since we believe future teachers must also acquire research techniques. It is very important to stimulate the students to develop their ability to observe, analyse and take up a critical dialogue with themselves -what they think and what they do- and what surrounds them (Barnett, 1992); a dialogue that

allows them boost their learning process. So, despite giving students only certainties -specific knowledge edited by the professor and the academic institution-, we believe it is very important to give them strategies to build new knowledge from practical experiences that would be useful for them as professionals. These tools are based on observation, data collection and reflection.

On the other hand, studies of early literacy are a new field of research where evidences are eclectic, rich and yet uncertain (since children are learning to express themselves, hypothesis about how they read and what they know about books and reading can not only be based on their verbal outputs). Our description of the skills acquired in these first stages can help teachers and future teachers to interpret the interactions of little children with books and coreaders and develop further investigations about this issue.

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