



Initial literacy and its development from childhood education¹. Review of the concept and applied research Alfabetización inicial y su desarrollo desde la educación infantil. Revisión del concepto e investigaciones aplicadas

Juan Pablo Rugerio & Yolanda Guevara
Universidad Nacional Autónoma de México

Received:
09/12/2014

Accepted:
29/01/2015

ISSN: 1885-446 X
ISSNe: 2254-9099

Keywords

Initial literacy; childhood education; linguistic development; pre-academic; empirical research.

Palabras clave

Alfabetización inicial; educación infantil; desarrollo lingüístico; investigación empírica.

Contact:

pablorigerio@campus.iztacala.unam.mx
cyguevara@campus.iztacala.unam.mx

Abstract

This article outlines the basic conceptual aspects of formal literacy and initial literacy, explaining its importance for the child's psychological and academic development. In the second part of this article, certain activities that can promote the development of initial literacy skills in children are underlined, as well as how parents and preschool teachers can perform a series of literacy activities. Several studies in this field are presented in the third part of this article, aiming at explaining the kind of research carried out, the tools used to assess the participants thereat, a series of methodological aspects that can address research and the procedures to foster pre-academic psychological development. A few final considerations on this issue are made, particularly on the findings of research in this field.

Resumen

En el presente escrito se exponen los aspectos conceptuales básicos sobre alfabetización formal y alfabetización inicial, explicando su importancia para el desarrollo psicológico y académico del niño. En una segunda sección, se enfatizan las actividades que pueden promover el desarrollo de habilidades de alfabetización inicial en los niños, y cómo los padres y profesores de preescolar pueden llevar a cabo una serie de actividades alfabetizadoras. La tercera sección presenta una exposición de estudios en este ámbito, con el objetivo de ilustrar el tipo de investigaciones que se han realizado, los instrumentos utilizados para la evaluación de los participantes, una serie de aspectos metodológicos que pueden guiar la investigación y los procedimientos de intervención para favorecer el desarrollo psicológico preacadémico. Se realizan algunas consideraciones finales sobre el tema, particularmente sobre los hallazgos de la investigación en el campo.

Rugério, J. P. & Guevara, Y. (2014). Initial literacy and its development from childhood education. Review of the concept and applied research. *Ocnos*, 13, 23-39.
doi: 10.18239/ocnos_2015.13.02



Introduction

This review article deals with one of the most important issues of childhood education, which is related to the competences, skills and knowledge that children have to develop to start their academic training in primary education, and formal literacy particularly. We are referring to the so-called *initial literacy* and the way it can be promoted through pre-school education.

Definitions of literacy

Some authors such as Whitehurst and Lonigan (1998) state that traditional approaches of studies to reading and writing take the access of children to formal education as a starting point, that is, they only consider what is called *conventional literacy*. These approaches do not consider the psychological development process since they do not take into account the fact that children acquire knowledge and skills, prior to formal reading and writing, which prepare them for conventional literacy and make it possible. The process followed by those previous skills is called *initial, early or emerging literacy* (Juste & Kadaraveck, 2002; Saint-Laurent, Giasson & Couture, 1997; Seda, 2003).

The perspective of initial literacy states that the acquisition of literacy takes place through an evolutionary process whose origins can be traced back to the child's early life (Sulzby & Teale, 1991; Teale & Sulzby, 1986). It is assumed that there is no clear point to know when reading and writing appear, since the child controls those formal skills gradually through the practice of certain linguistic oral, conceptual, pre-reading and pre-writing skills. There is agreement that the literacy process starts with the first linguistic interactions in the family, continues during the pre-school years when the child receives informal education, to the stage where the child goes into formal school and gets involved in literacy activities that can be considered conventional reading and writing (Stahl & Yaden, 2004; Sylva, Scott,

Totsika, Ereky-Stevens & Crook, 2008; Vega, 2006).

The interpretations that children make of printed symbols -drawings, scribbles, letters or logos- as well as their approaches to writing (Seda, 2003; Suárez, 2000), are included in the category of initial literacy. Some authors such as Morrow (2009) consider that literacy is not limited to reading and writing skills, but it also involves all the oral communication skills. The development of oral linguistic skills enriches and strengthens those skills related to written language and vice versa. The mutual influence relationships between both linguistic modalities are proved through several theoretical approaches and research that are briefly set forth below.

Reading is considered as a passage process from visual code to meaningful language. Early in life, reading in an alphabetical system involves decoding letters and their relevant sounds, linking those sounds to simple words (Lonigan & Whitehurst, 1998; Suárez, 2000). Individual differences regarding oral language skills are related to subsequent differences in reading, that is, those pupils who have a richer language range and good oral language understanding learn to read faster; this is related to the fact that they can recognise those written words more easily, for they already know their meaning by using them in oral language. Likewise, when children structure oral language correctly, it will help them to recognise the structure of written language as they are developing reading skills, attaining a better understanding of texts and narrative stories. Vocabulary will help them read and understand words, whilst syntax and semantic skills will be associated to reading and understanding of words in a story's context. Both are important aspects of the development of reading (Burgess & Lonigan, 1998). The level of proficiency of initial reading skills may be a predictive parameter of reading production in coming years, and can even indicate a need for special educational services, since most children are referred to these services due to their unsatisfactory

progress in reading (Biemiller, 2003; Lonigan & Whitehurst, 1998).

The development of initial literacy during pre-school ages can be better conceived when the elements involved in such process are known. Some authors such as Vega (2006) and Vega and Macotela (2007) outline important aspects in this sense:

- Children start their reading and writing activities at early ages because they live in a literate society. Children are able to identify labels, signs and logos in their house and community at the age of 2 or 3.
- Language is an integral part of the children's learning process. They develop oral and written language skills when they get involved in activities related to reading, since both linguistic systems are strongly correlated.
- Children get to know different aspects of reading and writing in those environments that are rich in literacy activities and materials and associate them to many events of everyday life. Initial literacy is fostered through interaction with other people in real life situations in which reading and writing are involved.
- Children learn from active participation. Their participation as active learners in significant situations is a necessary condition for the development of literacy.
- The role played by their parents and other literate people is aimed at making early learning of reading and writing easier.

The description of these elements leads to take two important premises into account within the field of development of initial literacy. Firstly, it must be taken into account the fact that such development takes place to the extent children have an active participation at a community level, so that they are somehow linked to written language; secondly, the fact that children acquire more knowledge, skills and propositive attitudes towards reading and writing, on the basis that such day-to-day activities are significant to them, (Vega, 2006), is also taken into account.

The early family context boosts literacy development in three ways:

1. Through interaction, which is made up of the experiences shared by the child and his/her parents, brothers and sisters or other people close to their family.
2. Through the physical environment, which includes reading and writing materials available at home.
3. Through the emotional and motivational environment, which is made up of the relationships among people at home, especially those that reflect the parents' attitude towards literacy and those aspirations related to the children's performance (Guevara, Ruggerio, Delgado, Hermosillo & López, 2010, p. 32).

On the basis of the findings of psychological research on the sequence followed by child development and the factors that influence it -especially those related to learning basic academic skills such as mathematics, reading and writing-, some authors (De la Cruz, 1989; Guevara, Ortega & Plancarte, 2001; Naudé, Pretorius & Viljoen, 2003; Romero, Aragón & Silva, 2002; Vega, 1998) state that the following pre-academic and linguistic skills are, *inter alia*, required by the child to start his/her school learning: fine and gross motor development, time-space relations, perceptive capability to distinguish shapes and colours, equalisation, speech understanding, pronunciation, sound discrimination, basic vocabulary use, narrative understanding and numeracy.

In addition, several studies (Cassady & Smith, 2004; DeBaryshe, Binder & Buell, 2000; Kim, 2007; López & Guevara, 2008) have reported that the phonological processing skills play a key role in acquiring reading skills. This processing, also called phonological awareness, refers to the child's capacity to recognise and use sounds in words; three kinds of skills related to phonological processing are identified: phonological sensibility, phonological memory and recovery of stored phonological lexicon.

There is also a series of evidences (Guevara & Macotela, 2000, 2002, 2006; Guevara, García, López, Delgado & Hermosillo, 2007; Romero and Lozano, 2010; Romero, Pérez, Bustos, Morales & Hernández, 2013) proving that the

efficiency level in terms of reading and writing skills is closely related to variables such as: the amount and type of vocabulary, the level of familiarisation with different conversational styles, the level of understanding of spoken language and the experience to reflect on language uses and forms. It can be categorically emphasised that all the skills related to oral and written language that are acquired in early stages of psychological development will have an impact on the child's academic life.

To sum up, the perspective of initial literacy points out that children acquire knowledge on several aspects of oral and written language from an early age that are necessary to acquire conventional writing and reading skills subsequently (DeBaryshe et al., 2000; Weigel, Martin & Bennet, 2006). The following can be included among other skills and knowledge as part of normal pre-school development: phonological awareness, the use of a rich and varied vocabulary, the proficient use of several social functions of language such as description (objects, people, places and events), conversational skills, narrative skills, the identification and interpretation of pictures and symbols, the identification of those objects related to the way reading and writing are performed (conventional aspects), as well as their social functions and relationships with oral language.

Studies on the influence of initial literacy

The fact that parents and teachers perform a series of literacy activities is especially important for the development of literacy skills in children; the aforesaid activities are aimed at promoting the acquisition and perfecting of the aforesaid linguistic and pre-academic skills. *Shared reading* (also called *joint* or *contextualised reading*) of tales and stories is one of the most important literacy activities, as well as verbal games and exploring jointly and actively written materials both by adults and children (Andrés, Urquijo, Navarro & García-Sedeño, 2010; Baker, Mackler, Sonnenschein & Serpell, 2001; Chow & McBride-Chang, 2003; Haney & Hill, 2004; Justice & Kadaraveck, 2002; Lesiak,

1997; Rugério & Guevara, 2013; Rocha & Vega, 2011; Saracho, 2008).

Ezell and Justice (2005) clarify that in order for reading stories to be considered as joint reading, this must include participative interactions between the reader (an adult or an elderly child) and a pre-school child, and those interactions have to aim at the learner drawing his/her attention on words, pictures, understanding the story, conventionalisms of written language and relations between oral and written language.

The objective of this interactive context must not only focus on the adult reading the story but on involving participants in a talk on the story told, which is more important, so that the learners develop better linguistic and conceptual skills. Joint reading involves the implementation of certain strategies or interaction skills by the adult, in order to take advantage of all the communication opportunities telling stories offers. To that end, the adult can ask, talk and clarify any doubts of the children, related to the story itself and to the experiences of the children, as pointed out by Rocha and Vega (2011). The use of puppets and toys in games has similar objectives, as well as interaction with written materials, since they enable children to receive information on the meaning of any printed or drawn material, as well as devoting time to conversation and verbal games (Guevara, Rugério, Delgado, Hermosillo & Flores, 2012).

The aforesaid interactive activities are not only important because they promote the development of initial literacy in pre-school children, preparing them to start formal literacy training, but they also awaken interest for written information, therefore motivating them to learn to read and write by themselves. The opposite happens when children do not participate in initial literacy activities at home or during pre-school education, which is typical of people of low socio-cultural status. Whitehurst and Lonigan (1998) clarify that the environment in families of low socio-cultural status usually offers few opportunities to

develop early literacy, which is often associated to difficulties to develop reading and writing by those children that are brought up therein; they report that, in the United States, 35% of children who access to public primary schools have low levels of skills related to initial literacy, as well as a lack of motivation to learn at school. This low level of preparation for school implies a mismatch between what children develop and the performance expected from them at school, which put them in a high-risk situation in terms of school failure

In the Latin American context, Romero, Arias and Chavarría (2007) designed a study that aimed at providing information on family culture regarding practices related to written and oral language, with the participation of 200 Costa Rican families with scarce resources and whose children attended kindergartens in the metropolitan area. The Survey on Family Environment (EFM, as per its Spanish acronym) was used and applied to parents to assess linguistic and reading practices at their homes, their attitudes towards oral and written language, as well as their socio-cultural features. Direct observations at 20 families' homes were also performed, asking the parents to interact with their children carrying out activities with reading and writing materials and games. The information compiled from surveys and observation was analysed and the results thereof were compared to the communication and language skills of the students who took part in the study.

It was found that the low socio-cultural status was related to the fact that children had lower skill levels in terms of phonological awareness, writing words, vocabulary, decoding and identifying letters. Regarding language and reading practices, it was found that only two out of ten families read stories and performed graphic expression activities such as drawing or scribbling; 70% of the families had less than 25 of any kind and 90% had less than 25 children's; this limitations were accentuated in families of low socio-cultural status.

The analysis of the quality of reading of stories showed that it had a very short duration, missing some paragraphs, making few comments about the tale and presenting scarce connections between the contents of the reading and the prior personal experiences or knowledge of the children; it was also noted that no texts whatsoever were used to make children familiar with the features and the functions of books and writing.

Romero et al. (2007) also reported that most parents wanted their children to have high school and university studies, to develop an appreciation for reading and to learn to write properly, but those expectations did not match the support they gave to their children. This mismatch reflects a gap between the family and school context regarding the goals and expectations each of them has. It was also noted that parents are not aware of their own home's potential to promote their children's development.

The data set forth above match those reported by Guevara et al. (2007) upon performing a study with Mexican children of low socio-cultural status aiming at compiling data on the level of linguistic skills those pupils had when entering grade 1 of primary education. This study had a transversal nature, with an objective assessment of the children's linguistic level during the first month of classes at school. 262 pupils participated in that study, with an average age of 5.7 years old, registered in four public schools of the State of Mexico.

The Assessment of Precurrent Reading Skills (EPLE, as per its Spanish acronym, Vega, 1998) was used, which is made up of 10 subtests to assess linguistic and conceptual skills. The results reflected low skill levels on a general basis in the children. On analysing the specific percentage of each test, only three of them were reported to have an appropriate or satisfactory percentage, i.e., 80% or more; these tests were: following instructions, distinguishing between shapes and texts and pronouncing sounds of speech; meanwhile, the skills with an average level, between

60% and 80%, were: distinguishing sounds, analyses and hearing syntheses, and retrieving names from presentations of sheets. The skills with the lowest percentages were: meaning of words, synonyms, antonyms and supraordinated words, repeating a story taking the main ideas, and spontaneous expression; all of them had a percentage below 40%, which means that the children entered first grade having poor linguistic development. These results underline that those children of low socio-cultural status may be in a risk situation of school failure.

The research of Guevara, Rugério, Delgado, Hermosillo y López (2010) was carried out to assess the development level attained by Mexican pre-school children regarding pre-academic and linguistic skills related to initial literacy, and showed the features of the literacy environment of the homes of those who had poorer performances. 65 pupils from communities of low socio-cultural status participated thereat and were assessed with two individually administered instruments: 1) the Range of Skills for School Learning (De la Cruz, 1989), which includes tests of speech understanding, spatial relationships, perceptive capability of shapes and spatial orientation, and 2) the Assessment of Precurrent Reading Skills (EPLE, as per its Spanish acronym, Vega, 1998). The results showed that the children had low level of pre-academic and language skills, which may lead to poor school performance.

These authors inform that the mothers of the 30 children having poorer performance answered a questionnaire to know more on the factors that affect reading and writing development in children, as well as the literacy practices carried out by them. Only a few of them informed that they carry out practices as reading stories to children or joint writing; their assumptions and practices on teaching reading and writing were related to identifying letters or syllables, although many of them answered ambiguously in this respect. The results showed that the mothers are not clear on their role as educational agents to achieve their children's initial literacy. Not a single mother mentioned

that the development of reading and writing can be fostered through activities performed by them and their children channeled at the development of oral language in their children, which can correspond to a traditional concept that oral and written and written language are not linked aspects, and that teaching is an exclusive function of primary schools.

Guevara et al. (2010) analysed the data found in their study, taking into account the three ways family environment promotes the development of initial literacy, trying to note which aspects were present or not. The reports from the participating mothers showed that they did not perform any interactions at their homes that may lead to an optimal development of oral and written language in their children. They informed that they have reading and writing materials at home but that they do not use them jointly with their children. The data showed that the aspects regarding the emotional and motivational environment, especially in terms of attitudes, assumptions and practices of the parents for their children's literacy development, will be restricted.

Romero et al. (2007) state that it is often -simplistically- assumed that children can develop a series of linguistic and pre-academic skills semiautomatically, just because they are daily in contact with a social environment where oral and written language are used. Another common misconception is to assume that all the children enter school with the same abilities and skills and that they are ready to access to formal education. One third misconception is that it is enough to develop the ability to decipher words from a text. These authors emphasise that it is necessary to take into account all the aspects involved in education during pre-school years, as well as the importance of the fact that during this stage children develop certain language and conceptual skills -including critical thinking- that are necessary to acquire reading and writing skills.

At present, it is known that people develop their skills of oral language, reading and writing through complex processes determined

by the use of these means of communications in culture, i.e., the linguistic skills to be developed by children at formal schools will to a great extent be supported by behaviours and practices previously validated in the family, social and school context.

All the facts set forth above mean that educational efforts to support children living in limited socio-cultural conditions must be addressed, so that they can attain greater development of initial literacy skills. To that end, it must be noted that academic failures are difficult to be fixed once they appear, as pointed out by Slavin (2003), and therefore educational and research services must be addressed for prevention and intervention at early ages. Therefore, this is the main mission of pre-school education.

Intervention studies related to the pre-school context

If the importance of literacy development in the pre-school context is taken into account, the study carried out by Cassady and Smith (2003) continues the approaches of the International Reading Association (IRA) and the National Association for the Education of Young Children (NAEYC) in 1998, which stated that teaching reading in kindergartens is often more effective when systematic and structured instruction programmes which promote the acquisition of phonological awareness, basic concepts on the alphabet and language are used, together with contextualized reading activities. The study aimed at assessing the impact of an integral learning system (ILS) that included such aspects and that was carried out in addition to the teaching activities of reading in different kindergartens, comparing the development of those pupils participating in the system with that of those pupils participating in the regular programme exclusively.

The pupils were assessed through the application of two instruments to measure their level of phonological awareness and their knowledge of written language at an initial, intermediate and final stage of schooling. The

variation analysis showed significant differences in favour of the group who participated in the ILS in the assessed skill. If we take the results of their study, Cassady and Smith (2003) come to the conclusion that implementing the Integral Learning System in the classrooms could be of great help to support phonological awareness and the knowledge of concepts about writing. Nevertheless, they make it clear that it is important to take into account some details that may affect the correct system operation, such as selecting the appropriate technological support resources and the qualification of teachers in the use of this kind of resources.

On the other hand, Borzone (2005) points out that a consensus has been reached on the fact that reading stories fosters development of language and learning to read and write, as well as the fact that not all the texts provide with similar experiences in terms of quantity and quality, both at school and at home. This author agrees that children from poor areas generally have a very restricted contact with story books, and it is thus necessary to carry out studies to analyse the impact thereof in vulnerable groups upon increasing this kind of practices. This author takes into account the approaches of an evolving model that proposes:

Frequent experience with an extended speech, including: listening to and telling stories again, talking about personal experiences, as well as talking about past, present and future events, would not only provide the necessary practice with specific linguistic resources -that are essential to be a competent narrator- but will also promote cognitive development as it used language to make complex cognitive operations, such as the establishing of relationships, making inferences and hierarchalising information (Borzone, 2005, p. 193).

On the basis of such approaches, Borzone (2005) carried out her study aiming at contributing to the knowledge on how reading stories frequently can have an impact on the development of speech and cognitive skills in children from underprivileged backgrounds. A proposal was raised to explore the impact of reading stories on the abilities to understand and produce fiction stories. The study had an

exploratory nature with a pre-test/post-test design; three groups of pre-school children participated therein together with their teachers, each group having different socio-demographic features (socio-economic status, NSE, as per its Spanish acronym: low urban, low rural and medium urban). From these three groups, only the one with low urban NSE was analysed and compared to the other two groups.

The children were assessed at the beginning and at the end of this intervention through a story they made up from the same book of pictures. The aspects to assess in the aforesaid stories were: whether time structure was coherent or not, if they included aspects contained in the text and whether causal relationships between events were established. The intervention was performed by the group teacher herself, who was trained to read stories to their pupils through strategies such as activation of knowledge in the children -that was necessary to understand the text-, understanding modelling process on reading the text and telling the story again upon finishing the reading thereof. This activity was performed at least three times a week during the entire schooling cycle. Upon completion of the programme, its impact was assessed through the analyses of the stories produced by the pupils.

The data obtained showed that the low urban NSE group improved its results in terms of structure and content of the stories, and its results were even better than the medium urban NSE group, which had better performance during the pre-assessment process. Despite the fact that Borzone's study (2005) had an exploratory nature, its results show how children can develop cognitive and linguistic skills from activities such as reading and reinterpreting texts. The author concludes that further studies must be carried out systematically in order to analyse the impact that frequent contact with a speech characterised by time sorting and casual relationships between events has on the linguistic and cognitive development of children, through the participation of an adult.

Another study was carried out by Saracho (2001), who emphasises that pre-school children must participate in programmes that promote the acquisition of initial literacy-oriented behaviours -making teaching of reading easier- through a game environment, since it is possible to perform implicitly activities related to reading and writing through playing activities. Five groups of pre-school children and teachers participated in this study. The intervention phase had duration of eight weeks, during which play centres enriched with materials and interactions aimed at developing literacy were carried out in the classroom. Likewise, the physical layout of classrooms was modified in order to promote playing behaviours that in time promote the implicit use of reading and writing, according to the children's level.

The results of the study showed that the children developed behaviours related to literacy in all the classrooms. Some of them were: reading the name of streets, recognising and reading traffic signs on streets, following instructions, developing vocabulary through interaction among children, using sequences of events properly, writing stories upon reading them, reading numbers, developing language by role-playing, creating stories based on personal experiences, associating pictures from cards with their relevant written names, reading letters from a list, recognising letters by their sounds, identifying words with similar sounds, creating stories from pictures and reproducing or "reading" stories.

Saracho (2001) concludes that using physical environments related to initial literacy can offer great number of opportunities to children so that they practice skills such as reading, writing, listening and talking, all of them through symbolic play activities. Likewise, the role played by teachers in these activities is very important, since they create the appropriate environment through planning activities and games that promote the development of skills related to literacy.

Clarck and Kragler (2005) carried out a study aiming at assessing the impact of using printed materials in the literacy development of pre-school children. 34 children aged 4 and 5 participated in this study; they were registered at a child care centre that helped low-income families, and the teaching staff in charge of them also participated therein. Firstly, these researchers participated through two workshops for all the teachers of the centre, in order for them to recognise the importance of boosting literacy development in children. The first workshop focused on the development of early literacy, while the second one dealt with strategies that could be used by teachers to support the children's initial literacy through printed material. The teachers were later invited to participate voluntarily with the researchers to modify the environment inside the classrooms and to design one environment that could make literacy development easier. The work of the researchers and the teachers was carried out throughout the entire schooling cycle and they also held meetings to discuss on potential activities, emphasising the use of printed materials.

This intervention was assessed both qualitatively and quantitatively. In the first kind of analysis, data were compiled through different techniques: 1) observations at the beginning, during and at the end of the schooling cycle on the literacy activities carried out inside the classroom; 2) preparation of an inventory of the printed material that can be used to read and write kept inside the classrooms; the inventories were prepared at the beginning and at the end of the research for comparison purposes; and 3) interviews to the teachers, so that they could express their opinions on the development of literacy, their conception about literacy behaviours shown by the pupils inside the classroom, as well as any suggestions regarding the modification of the environment inside the classrooms and the potential strategies planned for the future to involve children in literacy learning. The score of three instru-

ments applied to children was used to assess their level of literacy development.

The results showed an increase in the printed material available inside the classroom. On analysing the observations, it was noted that children from one of the participating groups had a tendency to carry out spontaneous activities. During the interviews, the teachers stated that the activities designed were of great help and also informed that their pupils increased their literacy performances, and even the teachers from one group admitted that their pupils wrote more than their prior pupils.

From a quantitative point of view, it was found, through an analysis of covariance (ANCOVA), that there were no significant differences between the different writing samples of the children; nevertheless, an increase in the kind of writing resulting therefrom was noted during this intervention, since at the beginning most pupils could only draw and only some could write their names, while at the end of the study there was an increase the number of children who could write their names and who, despite not being able to write conventionally, could write similar letters or symbols. The scores of the rhyme test underwent a descriptive analysis that showed differences between the groups: the pre-test showed that only 18% of the children from the three groups could identify the pairs of figures properly, while the post-test showed that 50% of the children from one group completed this activity correctly. In last place, the overall score of the test that assessed initial reading (TERA II, as per its Spanish acronym) showed a time effect in favour of the participating groups and showed that the children experienced an increase in their literacy development during the schooling cycle.

Regarding the study of Clarck and Kragler (2005), it is important to underline -for those works intending to design an intervention strategy aiming at developing initial literacy- that the activities planned and the material

are appropriate and interesting both for the children and their teachers.

In another study, Shapiro and Solity (2008) raised the question of what is the best intervention design to train reading skills at an early age; for this reason, they make two theoretical approaches derived from behavioural psychology. In the first approach, it is mentioned that it is important to take into account the number of skills that is intended to teach and the sequence in which they are presented. In the second one, it is pointed out that it is necessary to identify the difficulties shown by the children during the literacy process, aiming at overcoming them.

In view of these premises, the authors designed an intervention model called *Early Reading Research Intervention (ERR)*, aimed at boosting the development of two aspects in children who are pre-readers: phonological awareness and grapheme-phoneme correspondence. The programme was designed to be applied in schools in groups, in brief sessions of 12 minutes, three times during a school day, with the participation of both teachers and pupils. In each session, there were practices of different skills related to phonological awareness (syntheses and segmentation), knowledge on phonemes, vocabulary review and also the teacher read out loud to his/her pupils, which also encouraged children to approach reading. In each session, time was distributed in two minutes to practice each skill and four minutes for reading, when the teacher emphasised the usefulness of the practiced knowledge and how can they apply to reading development.

Shapiro and Solity (2008) carried out their study using a quasi-experimental design, comparing two groups, one of them with ERR intervention and the other following conventional teaching. The study was carried out during three years, observing the development of children from the year of Receipt (first year of formal education in the United Kingdom), until the end of grade 2 (third year of formal education). The intervention of ERR in the exper-

imental group took place until the end of first year and subsequently both groups received conventional education.

Four assessments were made: the first at the beginning of the year of Receipt, which is considered by the authors as a base line, and the other three assessments were made at the end of each schooling cycle (receipt, grade 1 and 2). The instruments used in those assessments were designed to analyse the learning level of children in skills such as phonological awareness (synthesis, analysis and rhyme), the grapheme-phoneme correspondence (knowledge on the sound of letters), reading words and reading prose. The assessments were made individually in the classroom. 462 children and their teachers from 12 different schools participated in this research; 251 children received the ERR, while 211 made up the control or comparison group.

The results obtained by Shapiro and Solity (2008) show that those children who attended schools where ERR had been implemented could increase their reading level faster than those children from comparison schools. A greater impact on phonological awareness skills was noted. Simultaneously, the number of children being reported reading difficulties decreased substantially in those schools with intervention. The authors conclude that the positive results of the intervention are due to the features of the designed programme, the main ones being: the methodology based on different groups according to their performance level, which allowed to adapt the contents of the lessons to each group's needs, as well as the frequency to administer the intervention and the specificity of the skills to be developed.

On the other hand, the objective of the study by González and Delgado (2009) was analysing the impact of a programme designed to teach reading and writing in young children in their academic performance, in order to develop cognitive-linguistic skills. Research was longitudinal, quasi-experimental, with four repeated measures and three intervention

phases, taking the intervention programme as independent variable and academic performance as dependent variable. Two groups of children from grade 2 of childhood education (control group and experimental group) were made, randomly located in medium-low status areas of the city of Malaga, Spain. The children were assessed individually by their relevant teachers with validated instruments according to their school grade: the first assessment was made at the beginning of the study (pre-test) and the rest of the assessments were made after each intervention phase, until the first year of primary education. The intervention was applied by the teachers, supervised and supported by the researchers. The data obtained were analysed descriptively and a variation analysis was made in order to find statistically significant differences between both groups.

The instrument used to assess academic performance was the Academic Performance Assessment Questionnaire (CERA, as per its Spanish acronym), with versions adapted to each schooling cycle. The intervention was made during eight months of each schooling cycle and consisted on two-and-a-half hour training in the classroom, where the teachers of each participating group worked on activities related to the development of phono-articulation and phonological knowledge, followed by semantic and morpho-syntactical development and, in last place, reading and writing accuracy, followed by reading comprehension and writing, as the case may be.

The analysis of the data obtained showed statistically significant differences in favour of the experimental group from the second assessment, which reflected in a higher level of academic performance. The results of the study led González and Delgado (2009) to conclude that written language plays an important role in the academic performance of very young children, especially when activities involving contents related to metalinguistic and oral language development are carried out. The authors underline the design of an intervention programme that is efficient and easy-to-apply

by the teachers of the participating groups, on the basis of training and constant supervision.

The objectives of Aram and Besser (2009) were: 1) comparing three intervention strategies: reading stories, developing literacy skills (phonological awareness and knowledge on letters), and a combination of the two of them, in order to know which one showed a greater impact; 2) comparing the literacy level of children of different ages, in order to determine what age is better to start the intervention, and 3) knowing who could be more suitable to carry the intervention out: pre-school teachers or university students to become teachers.

The initial literacy levels of the participating children were taken into account to measure the impact of the strategies applied; some of the main skills assessed were: phonological awareness, writing words, writing their names, naming letters, orthographical awareness, reading comprehension, vocabulary and general knowledge. These levels were assessed and compared on the basis of each of the intervention programmes. Pre-school children aged 3 and 4 registered in pre-school centres of low socio-cultural status in central Israel participated.

The results showed that reading stories developed more skills of linguistic nature, while literacy skills improved pre-academic skills (specifically related to written language). According to the authors, this fact matches the reports regarding literature. But the combination of both strategies had better effects on the children's development because it promoted both types of skills. Another important finding was that those children trained by university students had better performance than those trained by the teaching staff; this shows that there is a need for providing pre-school teachers with a better qualification, making them aware of the basic principles of the development of literacy in children and the way to optimise it in the classroom.

On their part, Cardozo and Chicue (2011) state that skills such as listening and talking

are essential in human social interactions, since critical and reflective thinking can only be acquired through them and the activities in the classroom must thus include the use of puppets. Ideas and feelings can be expressed through them, which are also useful to represent everyday life events. Puppets are not just a motivating tool, but they also: contribute to verbal development (diction, vocalisation, syntax), enrich vocabulary, improve expression during conflict and necessity solving, develop creativity and stimulate the participation of shy children, among other things. On the basis of these approaches, these authors designed an intervention strategy aimed at using puppets as a methodological strategy to improve learning and teaching of speaking in children in grade one of primary education. 20 pupils (10 girls and 10 boys) participated in this study; they were registered in two grade 1 groups of a primary school located in an area of low socio-cultural status, in the city of Paujil, Colombia.

An assessment of the participating children was made at the beginning of the intervention through direct observation of school activities and during a group conversation. Thanks to this assessment, it was noted that the children had speaking difficulties, such as: shyness when participating in the classroom, a very low tone of voice and poor articulation of certain phonemes. In addition, when it came to answering a question, the children showed behaviours such as covering their faces with their hands, staring at the floor and insecurity when talking to their mates and other people. After the initial assessment, a workshop of six group sessions was carried out every third day of the week for three weeks during class hours. This workshop was designed to carry out activities with puppets to improve the oral language of the participants, strengthening the ability to express their experiences, interests and needs clearly and coherently, with a respectful and collaborative attitude. The objectives of each session were: 1st) developing active listening in the children to enrich their vocabulary, 2nd)

promoting communication practices in the children by using puppets to improve the tone of voice, 3rd) stimulating -proxemic- orality during the playing and construction activity of a little theatre, 4th) developing communicative activities that enable children to improve kinetic elements by creating puppets, 5th) improving pronunciation of the /f/ j/r/ phonemes and 6th) using speaking skills in different communicative activities both inside and outside the classroom.

Cardozo and Chicue (2011) report that the intervention programme showed some effects on the children's speaking, who attained a good language level, in addition to show readiness to participate in the workshop's activities. They state that such progress was due to the strategy of using puppets, since the inclusion of this kind of material in the workshop allowed children to speak in an entertaining, pleasant way. They also attained a good tone of voice, increased their vocabulary, improved intonation and verbal fluency when representing some scenes with puppets; besides speaking, they communicated through gestures such as sad, happy and anguished faces, accompanied with movement from other parts of their bodies. The children also handled conventionalisms among interlocutors, asking and respecting turns to be given the floor when participating in group activities.

Guevara and Ruggerio (2014) carried out a study aimed at "testing the effectiveness of a behavioural programme -a workshop- for pre-school teachers, in order to qualify them to implement activities and strategies for the promotion of linguistic and pre-academic skills related to initial literacy in their pupils" (p. 26). The intervention was carried out through a series of activities in the two specific adult-child interaction contexts: joint reading of stories and playing with glove puppets. The intervention had a quasiexperimental nature to identify its effects on the literacy activities carried out by the teachers; therefore, a pre-test/post-test was used together with a follow-up assessment. Three participating teachers received the workshop (experimental) and one did not

receive it (equivalent control). Each assessment consisted on filming each teacher's class in each activity. The programme was applied throughout seven weeks and immediately after the post-assessment was made; the follow-up assessment was made two months thereafter. All the activities were supervised by two psychologists. The teachers worked as grade 3 of pre-school education in the State of Mexico located in areas of low socio-cultural status.

To analyse the footage, Guevara and Rugério (2014) designed two taxonomies on the basis of the linings derived from in-field research, aiming at observing the strategies used by the teachers to promote literacy interactions with the pupils during their classes. The workshops for teachers included explanations on child development, modelling each skill to promote initial literacy, role-playing, feedback and positive practice.

The data obtained regarding reading of stories were: in the pre-assessment, the four teachers read stories to the children respecting the punctuation marks, using a tone of voice according to the events they were telling. In the opinion of Guevara and Rugério (2014, p. 32), "this can be deemed to be appropriate since adults act as models of appropriate behaviours to establish relationships with written language and strengthen these behaviours in children". Nevertheless, they report that the participants showed important deficiencies in the field of important literacy practices that must be carried out during joint story telling: they did not mark the words they were reading and did not show the book to the children as they were reading, which means that they did not encourage the children to identify conventional aspects of reading activities (reading from left to right, from one line to another) or to stare at the images, two important aspects for the children to find a link between oral language, written language and the aspects of the world around them. The teachers very rarely persuaded the pupils to associate pictures to the aspects told or explained the reading conventionalisms, as

the point where reading starts and the way it follows.

After the workshop, the teachers increased the duration of the reading sessions and incorporated strategies to put it into practice jointly: they carried out the activity ensuring that the pupils could read the book, as well as the letters and words marked as the pupils were reading; they drew the children's attention to the story's pictures and asked the children so that they mentioned details of the story and the pictures; nevertheless, during the follow-up assessment, some of these categories decreased. The teacher who acted as control did not show any changes in comparison to the pre-assessment.

Regarding the puppets activity, certain effects provoked by the programme could be noted, such as: address linguistic exchanges of objects, characters, people, animals or places, towards the description of chains of events and the promotion of speaking in the pupils, despite the fact that those effects were not homogeneous among the participants. The category that experienced an increase in the three experimental teachers was that related to the promotion of linguistic interaction among the children, but no effects were noted on aspects such as story telling. In short, it can be stated that the programme had positive effects on the teachers' literacy practices, but these effects were greater in the case of joint story telling.

Guevara and Rugério (2014) conclude that the differences between both activities can be explained by the complexity level of the activities.

It is important to note that the puppet play involves the structuring of situations that do not take place while the activity is in progress; therefore, there are no specific references addressing linguistic interactions among participants. On the other hand, in the joint story telling activity, there are certain materials on the basis of which the activities are carried out (the story book itself), which contain the words and pictures that guide linguistic interactions: they are printed, have a sequence and can be observed by the teacher and her pupils jointly (p. 34).

Regarding the approach of Borzone (2005), it should be reiterated that literacy activities must be carried out frequently; otherwise, they cannot have any effect whatsoever on the development of initial literacy. It should also be emphasised to pre-school teachers that literacy activities are extremely important for general psychological development and help to prepare pupils to face the challenges of formal education. Activities such as joint story telling and the puppets activity must be incorporated to pre-school educational practice, but covering all the aspects included thereat.

By way of conclusion to this review, it can be stated that the studies presented show the influence of school context in the development of initial literacy activities, which is made up of several factors -just as the family context- such as the type of training, the activities carried out in the classroom, the materials used in the class, the curricular programmes and others. All these factors can promote the development of initial literacy and, although the most important one has not been identified, it is worth noting the findings of research to select those directly related to skills or knowledge that are intended to be developed. It is important to note the theoretical foundations and the in-field findings, as well as to carry out systematic studies and interventions.

According to the reviewed research, teaching practice in childhood education must be addressed to develop linguistic skills in pupils that make learning of reading and writing easier to them. Among the activities that may attain that objective are: joint reading of stories, designed to promote linguistic exchanges among pupils and teachers through questions related to aspects (characters, actions, places and concepts) referred to in the text, as well as through interactions that link such aspects with everyday life situations. This activity also involves the use of materials (letters, drawings, signs and symbols) that enable children to get familiar with written representations of language and establish relationships between the two linguistic modalities.

Another activity that provides elements for the conceptual and linguistic development of children is using puppets, provided that it aims at promoting skills to describe people, objects and places, as well as telling events. This aspects allow in time linguistic interaction of children with past, present and future situations, as well as the establishment of causal relationships that promote logical thinking and argumentation.

It should also be stressed the importance of putting into practice vowel games to acquire phonological awareness, including placement of syllables, identification of words having similar phonemes (at the beginning and at the end of words), word composition and de-composition, synonyms and antonyms, definitions, riddles, and others. Exploring printed materials and producing symbols and drawings that promote writing should not be thrown.

The aforesaid activities are not only directly related to the psychological development of children, but can also promote motivation and interest in reading and writing activities, learning which is an essential part of human life. The promotion of initial literacy in the classrooms can prevent problems such as school failure, especially in communities of low socio-cultural status.

Notes

1 In some countries such as Spain, “childhood education” means the initial school stage, replacing the term “pre-school education”, in order to remove the underlying meaning referring to a non-education phase, prior to school itself. Nevertheless, in the field of literature on initial literacy, several authors still use “pre-school education” and “pre-school children”, especially in Latin America. This review observes the terms used by the authors of the papers presented.

References

Andrés, M., Urquijo, S., Navarro, J. & García-Sedeño, M. (2010). Contexto alfabetizador familiar: relaciones con la adquisición de habil-

- idades prelectoras y desempeño lector. *European Journal of Education and Psychology*, 3(1), 129-140. Retrieved from <http://www.ejep.es/index.php/journal/article/view/129-140/64>
- Aram, D. & Besser, S. (2009). Early literacy interventions: which activities to include? at what age to start? and who will implement them? *Infancia y Aprendizaje*, 32(2), 171-187. doi: 10.1174/021037009788001806
- Baker, L., Mackler, K., Sonnenschein, S. & Serpell, R. (2001). Parent's interactions with their first-grade children during storybook reading and relations with subsequent home reading activity and reading achievement. *Journal of School Psychology*, 39(5), 415-438.
- Biemiller, A. (2003). Vocabulary: Needed if more children are to read well. *Reading Psychology*, 22, 323-335. doi:10.1080/02702710390227297
- Biemiller, A. (2005). La lectura de cuentos en el jardín infantil: un medio para el desarrollo de estrategias cognitivas lingüísticas. *Psyche*, 14(1), 193-209. Retrieved from <http://www.redalyc.org/pdf/967/96714115.pdf>
- Burgess, S. & Lonigan, C. (1998) Bidirectional relations of phonological sensitivity and prereading abilities: evidence from a preschool sample. *Journal of Experimental Child Psychology*, 70(2) 117-141. doi: 10.1006/jecp.1998.2450
- Cardozo, M. & Chicue, C. (2011). *Desarrollo de la expresión oral a través de los títeres en el grado primero A y B de la institución educativa agroecológica amazónica, sede John Fitzgerald Kennedy, del Municipio de Paujil, Caqueta*. (Unpublished BA Thesis). Universidad de la Amazonia, Colombia.
- Cassady, J. & Smith, L., (2003). The impact of a reading-focused integrated learning system on phonological awareness in kindergarten. *Journal of Literacy Research*, 35(4), 947-964. doi:10.1207/s15548430jlr3504_2
- Chow, B. & McBride-Chang, C. (2003). Promoting language and literacy development through parent-child reading in Hong Kong preschoolers. *Early Education and Development*, 14(2), 233-248. doi:10.1207/s15566935eed1402_6
- Clarck, P & Kragler, S. (2005). The impact of including writing materials in early childhood classrooms on the early literacy development of children from low-income families. *Early Child Development and Care*, 175(4), 285-301. doi:10.1080/0300443042000266295
- De la Cruz, M. (1998). *Batería de aptitudes para el aprendizaje escolar*. Madrid: TEA Ediciones.
- DeBaryshe, B., Binder, J. & Buell, M. (2000). Mothers' implicit theories of early literacy instruction: implications for children's reading and writing. *Early Child Development and Care*, 160(1), 119-131. doi:10.1080/0300443042000266295
- Ezell, H. & Justice, L. (2005). *Shared storybook reading. Building young children's language & emergent literacy skills*. Baltimore, Maryland: Paul H. Brookes Publishing.
- González, M. & Delgado, M. (2009). Rendimiento académico y enseñanza-aprendizaje de la lectoescritura en educación infantil y primaria: un estudio longitudinal. *Infancia y Aprendizaje*, 32(3), 265-276. doi:10.1174/021037009788964114
- Guevara, Y., García, G., López, A., Delgado, U. & Hermosillo, A. (2007). Habilidades lingüísticas en niños de estrato sociocultural bajo, al iniciar la primaria. *Revista Acta Colombiana de Psicología*, 10(2) 9-17.
- Guevara, Y. & Macotela, S. (2000). Proceso de adquisición de habilidades académicas: una evaluación referida a criterio. *Revista Iberpsicología 2000*, 5.2 (4), 1-14. Universidad Complutense de Madrid, Spain. Retrieved from <http://fs-morente.filos.ucm.es/publicaciones/iberpsicologia/Iberpsico9/guevara/guevara.htm>
- Guevara, Y. & Macotela, S. (2002). Sondeo de habilidades preacadémicas en niños mexicanos de estrato socioeconómico bajo. *Revista Interamericana de Psicología*, 36(1), 255-277.
- Guevara, Y. & Macotela, S. (2006). Evaluación del avance académico en alumnos de primer grado. *Revista Mexicana de Análisis de la Conducta*, 32(2), 129-154.
- Guevara, Y., Ortega, P. & Plancarte, P. (2001). *Psicología conductual. Avances en educación especial*. Mexico: Facultad de Estudios Superiores Iztacala. UNAM.

- Guevara, Y. & Macotela, S. (2014). Programa para promover prácticas alfabetizadoras de profesoras de preescolar en escuelas de nivel sociocultural bajo. *Journal of Behavior, Health & Social Issues*, 6(1), 23-36.
- Guevara, Y., Rugério, J. P., Delgado, U., Hermosillo, A. & Flores, C. (2012). Efectos de un programa para promover alfabetización inicial en niños preescolares. *Revista Mexicana de Análisis de la Conducta*, 38(3), 45-62.
- Guevara, Y., García, G., López, A., Delgado, U. & Hermosillo, A. (2010). Alfabetización emergente en niños preescolares de bajo nivel sociocultural: una evaluación conductual. *Revista Mexicana de Psicología Educativa*, 1 (1), 31-40.
- Haney, M. & Hill, J. (2004). Relationships between parent-teaching activities and emergent literacy in preschool children. *Early Child Development and Care*, 174(3), 215-228. doi:10.1080/0300443032000153543
- Justice, L. M. & Kadaraveck, J. (2002). Using shared storybook to promote emergent literacy. *Council for Exceptional Children*, 34(4), 8-14.
- Kim, Y.-S. (2007). The relationship between home literacy practices and developmental trajectories of emergent literacy and conventional skills for Korean children. *Read Writ*, 22, 57-84. doi:10.1007/s11145-007-9103-9
- Lesiak, J. (1997). Research based answers to questions about emergent literacy in kindergarten. *Psychology in the Schools*, 34(2), 143-160. doi:10.1002/(SICI)1520-6807(199704)34:2%3C143::AID-PITS7%3E3.3.CO;2-W
- Lonigan, C. & Whitehurst, G. (1998). Getting ready to read: Emergent literacy and family literacy. National Institute of Child and Human Development (NIH), Bethesda, MD. Administration for Children and Families (DHHS), Washington, DC. Retrieved from <http://www.dr.sbs.sunysb.edu/pubs/event-startchapter.html>
- López, A. & Guevara, Y. (2008). Programa para prevención de problemas en la adquisición de la lectura y la escritura. *Revista Mexicana de Análisis de la Conducta*, 34(1), 57-78.
- Morrow, L. M. (2009). *Literacy development in the early years. Helping children read and write*. 6ta. Ed. Boston: Allyn & Bacon.
- Naudé, H., Pretorius, E. & Viljoen, J. (2003). The Impact of impoverished language development on preschoolers readiness-to-learn during the foundation phase. *Early Child Development and Care*, 173(2), 271- 291. doi:10.1080/0300443030303098
- Rocha, G. & Vega, L. (2011). Narremos cuentos a los niños: es fácil y divertido. Un manual para padres y maestros. En L. Vega. (Ed.) *Estrategias para la promoción del desarrollo del lenguaje en niños preescolares. Manual para profesionales y padres*. (pp. 101-161). Mexico: Universidad Nacional Autónoma de México Facultad de Psicología.
- Romero, M., Aragón, L. & Silva, A. (2002). Evaluación de las aptitudes para el aprendizaje escolar. En L. Aragón & A. Silva (Eds.), *Evaluación psicológica en el área educativa* (pp. 37-80). México: Pax.
- Romero, S., Arias, M. & Chavarría, M. (2007). Identificación de prácticas relacionadas con el lenguaje, la lectura y la escritura en familias costarricenses. *Revista Electrónica "Actualidades Investigativas en Educación"*. Retrieved from <http://redalyc.uaemex.mx/src/inicio/ArtPdfRed.jsp?iCve=44770305&iCveNum=8101#>
- Romero, E. & Lozano, A. (2010). Adquisición de las habilidades lingüísticas y cognitivas, relevancia para el aprendizaje del lenguaje escrito. *Umbral Científico*, 16, 8-12. Retrieved from <http://www.redalyc.org/pdf/304/30418644002.pdf>
- Romero, M., Pérez, O., Bustos, M., Morales, B. & Hernández, E. (2013). Estudio comparativo del desarrollo de la alfabetización en poblaciones de educación primaria y preescolar. *European Scientific Journal*, 9(11) 255-269. Retrieved from <http://www.ejournal.org/index.php/esj/article/view/979/1010>
- Rugério, J. P. & Guevara, Y. (2013). Desarrollo de habilidades conductuales maternas para

- promover la alfabetización inicial en niños preescolares. *Acta Colombiana de Psicología*, 16(1), 81-90.
- Saint-Laurent, L., Giasson, J. & Couture, C. (1997). Evolution of emergent reading behaviors in preschool children with developmental disabilities: A within-individual examination. *European Journal of Special Needs Education*, 30, 52-56. doi: 10.1080/0885625960110205
- Saracho, O. (2001). Exploring young children's literacy development through play. *Early Child Development and Care*, 167(1), 103-114. doi:10.1080/0300443011670109
- Saracho, O. (2008). Fathers' and young children's literacy experiences. *Early Child Development and Care*, 178(7), 837- 852. doi:10.1080/03004430802352251
- Slavin, R. E. (2003). Cada niño, un lector: éxito para todos. En A. Marchesi & C. Hernández Gil (Eds.). *El fracaso escolar. Una perspectiva internacional* (pp. 303-317). Madrid: Alianza Editorial.
- Seda, I. (2003). La lectura en niños de nivel preescolar. En S. Swartz, R. Shook, A. Klein & C. Hagg (Eds.). *Enseñanza inicial de la lectura y la escritura* (pp. 81-94). Mexico: Trillas.
- Cassady, J. & Smith, L., (2008). Delivering phonological and phonics training with whole-class teaching. *British Journal of Educational Psychology*, 78(4), 597-620. doi:10.1348/000709908X293850
- Stahl, S. & Yaden, D. (2004). The development of literacy in preschool and primary grades: Work by the center for the improvement of early reading achievement. *The Elementary School Journal*, 105(2), 141-165. doi:10.1086/428862
- Suárez, A. (2000). *Iniciación escolar a la escritura y a la lectura*. Madrid: Pirámide.
- Sulzby, E. & Teale, W. (1991). Emergent literacy. En R. Barr, M.L. Kamil, P.B. Mosenthal, & P.D. Pearson (Ed.). *Handbook of Reading Research*. Vol. 2 (pp. 727-757). New York: Longman.
- Sylva, K., Scott, S., Totsika, V., Ereky-Stevens, K. & Crook, C. (2008). Training parents to help their children read: a randomized control trial. *British Journal of Educational Psychology*, 78(3), 435-455. doi:10.1348/000709907X255718
- Teale, W. H., & Sulzby, E. (1986). *Emergent literacy. Writing and reading*. Norwood, NJ: Ablex.
- Vega, L. (1998). Instrumento para evaluar habilidades precurrentes de lectura (EPL). Reporte de su elaboración y análisis psicométrico. *Revista Integración. Educación y Desarrollo*, 10, 9-19.
- Vega, L. (2006). Los años preescolares: su importancia para desarrollar la competencia lectora y el gusto por la lectura. En L. Vega, S. Macotela, I. Seda & H. Paredes, H. (Ed.) *Alfabetización: retos y perspectivas* (pp. 13-39). Mexico: Facultad de Psicología. Universidad Nacional Autónoma de México.
- Vega, L. & Macotela, S. (2007). *Desarrollo de la alfabetización en niños preescolares*. México, Facultad de Psicología. Universidad Nacional Autónoma de México.
- Weigel, D., Martin, S. & Bennett, K. (2006). Contributions of the home literacy environment to preschool-aged children's emerging literacy and language skills. *Early Child Development and Care*, 176(3-4), 357-378. doi:10.1080/03004430500063747
- Whitehurst, G. & Lonigan, C. (1998). Child development and emergent literacy. *Child Development*, 69 (3), 848-872. doi:10.2307/1132208