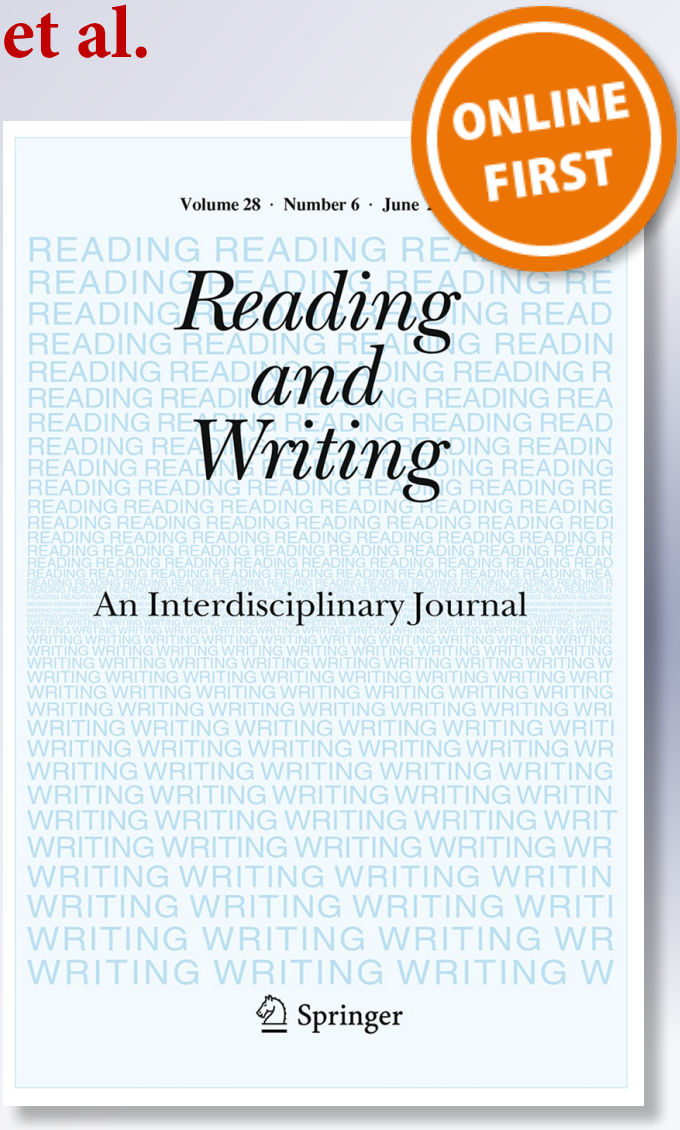
Teachers' implicit theories of learning to read: A cross-cultural study in Ibero-American countries

Juan E. Jiménez, Cristina Rodríguez, Natalia Suárez, Isabel O'Shanahan, Yalov Villadiego, Claudia Uribe, Jose Angel Villalobos, et al.

Reading and Writing
An Interdisciplinary Journal

ISSN 0922-4777

Read Writ
DOI 10.1007/s11145-015-9574-z



Springer

Read Writ
DOI 10.1007/s11145-015-9574-z

Teachers' implicit theories of learning to read: A cross-cultural study in Ibero-American countries

Juan E. Jiménez[1] · Cristina Rodríguez[1] · Natalia Suárez[1] · Isabel O'Shanahan[1] · Yalov Villadiego[2] · Claudia Uribe[3] · Jose Angel Villalobos[4] · Patricia Rodas[5]

Abstract The main goal of this study was to explore the nature and structure of implicit theories of Spanish-speaking in-service teachers on learning to read. The study sample consisted of 591 in-service teachers from various Ibero-American countries (Spain, Mexico, Guatemala, Colombia, and Ecuador). The study analyzed attributional structure or teacher beliefs on learning to read based on principal component analysis. Findings revealed that many of the implicit theories on learning to read held by the teachers correspond to the historiography analysis and representational structure identified in previous studies. Based on main component analysis with varimax rotation, a factorial structure was found to be formed by the seven main factors related to the constructivist, nativist, maturationist, social, repetition, corrective, and psycho-linguistic learning theories. Also, significant differences were found in the learning theories of the teachers depending on geographical and cultural context. Spanish teachers were more likely to be associated with the psycho-linguistic and nativist theories. Mexican teachers were more closely associated with the constructivist theory, and both Guatemalan and Colombian teachers tended to be linked to the repetition-based theory. Finally, Ecuadorian teachers tended to rely on the nativist theory.

Keywords Implicit theories · Teacher beliefs · Cross-national study · Learning to read · Scientific theories · Attribution · Ibero-American countries

✉ Juan E. Jiménez
ejimenez@ull.es

[1] Universidad de La Laguna, The Canary Islands, España

[2] Universidad del Norte, Barranquilla, Colombia

[3] Universidad Casa Grande de Guayaquil, Guayaquil, Ecuador

[4] Universidad Autónoma de San Luis Potosí, San Luis Potosí, Mexico

[5] Universidad del Valle de Guatemala, Guatemala, Guatemala

Published online: 08 July 2015

Introduction

The study of the implicit theories of teachers is of special interest to academic organizations due to its close relationship with teaching practices, classroom judgments and classroom management (Asthon, 1990; Clark & Peterson, 1986; Fuchs, Fuchs & Phillips, 1994; Shin & Koh, 2007). Teacher beliefs tend to guide and direct their behavior (Clark & Yinger, 1979; Shavelson & Stern, 1983). Therefore, it is important to determine what teachers believe regarding how children learn to read since if we ignore this, a negative impact on teaching may result. For example, if teacher training programs that are created in response to scientific research fail to incorporate teacher beliefs, the resulting educational policy guidelines and recommendations may have undesired effects (Moats, 2009). In fact, these scientific recommendations may actually become obstacles if teacher beliefs contradict them. Hence ongoing education in practical reflexive thinking for teachers is vital to the development and innovation of education, and knowledge of the implicit theories held by teachers is essential to understanding and intervening in the learning process.

Implicit theories are believed to be constructed representations that are based on academic experiences acquired during contact with specific socio-cultural models. They are characterized by social interaction practices which allow an understanding of the negotiation processes and exchanges that are involved in teaching (Tirta, 1999). Therefore, analysis and diagnosis of teachers' beliefs on how children learn to read within a specific socio-cultural context should be included in teacher training programs, as it shall most likely increase teacher effectiveness (Sang, Valcke, van Braak, & Tondeur, 2009). Implicit theories of teachers have been defined as "personal educational theories, re-established based on historical and socially based teaching expertise that is transmitted via training and teaching practice" (Marrero, 1993, p. 245). The theories represent an organized set of knowledge regarding the physical or social world, and they are considered to be implicit because they are not typically accessed by our conscience and appear to be real and permanent (Rodrigo, 1993). These epistemic constructs represent reality based on past experiences and reflect the influence of diverse cultural models. In other words, they form the socially and individually-based knowledge synthesis regarding a specific domain and may serve to explain how teachers interpret, predict and behave. Understanding how teachers think about learning to read may make it is easier to modify these beliefs in accordance with scientific research recommendations, thereby leading to improved teaching practices (O'Shanahan & Jiménez, 1992).

Teachers seem to adopt different educational beliefs depending on endogenous variables such as gender, teaching experience, or the subject domain (Brown, 1985; Suárez & Jiménez, 2014; Suárez, Rodríguez, O'Shanahan, & Jiménez, 2013). On the other hand, little research evidence is available as to macro-level contextual variables that are expected to affect teachers' beliefs such as geographical area (rural/urban), or cross-cultural differences. Therefore, our study is focused on cross-cultural differences in teacher's beliefs; culture is an important variable in discussions about beliefs. Considering the nature of beliefs, teachers' educational

beliefs may be largely shaped by culturally shared experiences and values (Sang et al., 2009).

A key aspect of the implicit theories is the recognition of the two functional levels of representation (Marrero, 1988, 1993; Rodrigo, 1993; Rodrigo, Rodríguez & Marrero, 1993): knowledge (or representational synthesis) and belief (or attributional synthesis). The former appear when demands force the subject to declare his/her theory (or that of others); in other words, these are theories that the subject knows or recognizes, making them explicit in nature. The latter, on the other hand, are formed when demands force individuals to interpret or understand reality, such as planning subsequent behavior; in other words, these are theories that the subject assumes to be their own, therefore they are pragmatic or implicit in nature.

According to Kagan (1992), a cluster of separate research agendas has dominated on the literature of teacher belief. These are agendas concerning two special forms of teacher belief: teachers sense of self-efficacy and content-specific beliefs (see for a review, Kagan, 1992). The second research agenda has emerged around content-specific beliefs, a teacher's orientation to specific academic content (e.g., teaching in general, Jiménez, 2009; the acquisition of oral language, O'Shanahan, 1996, 2009; school culture, Castro, 2009; concepts on teaching in pre-service teachers, Cepeda, 2009; and reading, DeFord, 1985; Gove, 1983; Jiménez & Hernández, 1986; Lenski, Wham, & Griffey, 1998). However, with this study we aim to go beyond examining the different theories upon which teaching and reading education have traditionally been based, or the theories regarding learning to read that are implicit in Early Childhood Education and Primary School teachers. To our knowledge there no studies have analyzed the teachers' implicit theories of learning to read from different Ibero-American countries.

The study of implicit theories requires the use of a specific and heterogeneous methodology that incorporates different phases, each of which has a specific purpose (Correa & Camacho, 1993). The initial or exploratory phase utilizes a variety of tools and procedures (historiography analysis, brainstorming, content analysis, expert opinions, etc.) in order to provide researcher with a wide, specific range of theories on the study topic, presented in a set of representative statements for each theory. The structural phase utilizes a set of procedures that are designed to reflect the structure of the implicit theory, at a knowledge and beliefs level; therefore it includes two sub-phases, the first of which determines the representational structure and the second of which determines the attributional structure.

In a previous study, we examined the literature existing on scientific theories of learning to read (for a description of methodological procedures, see Jiménez, Rodríguez, Suárez, & O'Shanahan, 2014b). We identified a series of scientific theories that have endured over the years and that are still in use today (for a review of these, see Tracey & Mandel, 2012): nativist, behaviorism, maturationist, constructivist, social and cognitive theories. We provide a brief summary in the method section that includes a description of previous steps to determine the representational structure which has been necessary to address the second phase of determining the attributional structure.

The study of the theories and their representational function based on this methodology has provided us with an instrument (i.e., *the Questionnaire on teacher*

beliefs regarding learning to read, Jiménez, Rodríguez & Suárez, 2014a) to analyze the attributional level of teachers regarding reading acquisition, and to thereby identify the implicit theories attributed to the teacher. Therefore, the aim of this study is to determine the structure of the teachers' theories on learning to read and to analyze whether or not these implicit theories differ depending on the cultural and geographic location of the teachers.

Method

Participants

The sample consisted of 591 in-service teachers from various Ibero-American countries (Spain, N = 101, Mexico, N = 145, Guatemala, N = 109, Colombia, N = 143, Ecuador = 93). Of these, 90 % were females and 10 % were males. 66 % from urban areas and 34 % from rural areas. With regard to specialty, 51.9 % specialized in Primary Education (PE), 19.1 % in Early Childhood Education, .2 % in Physical Education, .2 % in Music Education, 2.4 % in Special Education, .5 % in Foreign Languages and 25.7 % had other specialties. There were significant differences in teaching experience (i.e., in terms of the number of years the teachers have taught, Spain, M = 8.5, SD = 7.9; México, M = 6.4, SD = 6.2; Guatemala, M = 4.2, SD = 4.9; Colombia, M = 8.3, SD = 10.7; and Ecuador, M = 8.1, SD = 7.3) between teachers across countries, $F(4, 586) = 6.19$, $p < .001$, $\eta^2 = .04$.

Materials and tools

Questionnaire on teacher beliefs on learning to read (Jiménez et al., 2014a, b). This questionnaire contained 60 statement items corresponding to basic postulates of the different scientific theories of learning to read. This tool included 10 items for each theory (and a total of 6 theories). The construction of this questionnaire has been based on the following procedure: (1) a representational body of works reviewing scientific theories on learning to read was analyzed (Jiménez et al., 2014a, b); (2) a sample of 16 teachers was selected from different educational centers of northern and southern Tenerife (The Canary Islands) to participate in a study. They worked in Early Childhood Education, 1st and 2nd grades of Primary school and had considerable experience in the area of reading. Various sessions were held where the moderator began by introducing key statements representing different epistemological theories (i.e., nativist, behaviorism, maturationist, constructivist, social and cognitive approaches) that have endured over the years and that are still in use today (for a review of these, see Tracey & Mandel, 2012), refocusing the discussion whenever it deviated from the topic. Initially, the moderator indicated that this was a study related to reading, and that the researchers were seeking teachers' opinions based on their experience, that there was no right or wrong answers, and that he or she would facilitate but not state opinions of his own. They were then asked to freely express opinions on the following questions: How do you think children learn

to read? What variables make it possible for children to learn to read? Do children learn to read based on some specific strategies? The conversation regarding the phrases corresponding to each theory was exhausted before moving on to the next theory. Teachers explained their points of view and their opinions were recorded. A literal transcription was made from the recorded material of this "Brainstorming" session; (3) an analysis of the content from each theory was conducted using a system of experts, and the most characteristic and prototypical statements from each theory were analyzed. The expert participants were teachers and researchers working in distinct study areas related to the different theories of reading acquisition (i.e., psychology, pedagogy, psychopedagogy and teaching). The ideas of each teacher were evaluated and included for each of the theories based on the basic assumptions of the theories; and (4) in order to determine if all of the scientific theories identified by the socio-historical analysis have a representative body or if some of them have disappeared or may overlap with others, a normative study was conducted. In this way, it was possible to study the relations between the representational structure of the subjects and the theories analyzed, while also determining the degree of coherence of the statements making up each reading acquisition theory. A sample of 497 students of Psychology, Pedagogy and Education (in all possible specialty areas) was selected. The researchers used "critical episodes" (i.e., a description of an everyday situation in which specific individuals express their points of view that coincide with those of a specific theory) that were typical of each of the theories, to serve as triggers, including a description of practical situations where determined individuals (i.e., teachers) expressed their perceptions that coincided with those of a specific theory. Table 1 shows an example of the "critical episode".

Using critical episodes instead of presenting conceptual arguments is consistent with the idea that individuals do not store theories as abstract concept networks, but rather, as sets of experiences, based on which they synthesize a theory when specifically required to do so. Thus, theories tend to be activated by experiences and not by the presentation of concepts (Rodrigo, 1993). After reading the "critical episode", subjects were informed that teachers acting as the main characters in the scene have a specific concept regarding how children learn to read and that they

Table 1 Example of critical episode for constructivist theory

Critical episode: constructivist theory
At the start of the school year, two teachers speak about their plans for teaching their students to read over the coming year:
Clara: I don't believe in forcing it, we should wait until they understand what reading involves. There is no purpose in explaining it, since this just ruins the illusion of their discovering it for themselves
María: While it seems that children at these ages need many explanations, almost the opposite is actually true, they need for us to give them space and contexts where they can discover these explanations for themselves. For example, Jorge (a child in their class that they both know) discovered for himself that the "c" although always the same, changes its sound when followed by different vowels

may possibly have different perspectives. The subjects were informed that they were not being asked for their own perspective, but for their opinion of these characters regarding how children learn to read. Thus, the researchers strongly suggested that, prior to filling out the questionnaire, the subjects attempt to put themselves in the position of the characters from the scene and assess the degree of similarity between each verbal statement and the concept that this individual holds regarding reading acquisition in children. The data obtained from the normative questionnaire were analyzed based on typicality and polarity to determine the similarity of the statements with a specific theory, independent of the others, as well as whether or not the most typical statements of one theory were also representative of other theories. In examining the relation existing between typicality and polarity for each theory, the correlations between typicality and polarity were statistically significant ($r > .80$), and the greatest positive correlations were always obtained between the typicality and polarity corresponding to the same theory. Results corroborated the idea that the analyzed theories exist in the minds of the subjects who assess whether or not the statements belong to the same theory (for a more detailed description of methodological procedures, see Jiménez et al., 2014a, b). Based on this methodological procedure the attribution questionnaire contains 60 statement items corresponding with basic postulates of the different scientific theories of learning to read. The statements presented to the educators were written using self-referential terminology. For example, "I believe that a child should construct their own way of learning to read", "I believe that all students need a supportive social environment that complements the process of learning to read", etc. Teachers expressed their degree of agreement or disagreement with the statement using a Likert-like scale ranging from 0 to 10, with 0 being complete disagreement with the statement and 10 being complete agreement with it. Cronbach's alpha was found to be .88.

Procedure

The majority of the participants were enrolled in the Letra tutorial training program (www.programaletra.ull.es). This program includes the *Questionnaire on teacher beliefs regarding learning to read* and it was pilot tested in various Ibero-American countries as part of a research project funded by the Spanish National Scientific Research, Development and Technological Innovation Plan (National R&D&I Plan) of the Ministry of Economics and Competitiveness (Ref.: PSI2009-11662) carried out by the first author (Jiménez, 2015). In this study, agreements were reached with various educational and university administrations of the different Ibero-American countries. Specifically, cooperation agreements were formalized with the Ministry of Education of Guatemala and the University of the Valley of Guatemala (*Universidad del Valle de Guatemala)*; The Secretary of Public Education of San Luis Potosí and the Autonomous University of San Luis Potosí in Mexico; the Secretary of Education of the district of Barranquilla and the University of Northern Colombia (*Universidad del Norte de Colombia*); and the Universidad Casa Grande de Guayaquil in Ecuador.

Results

Prior to factor extraction, the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was calculated as was the Bartlett's Test of Sphericity (BTS), in order to ensure that the data set characteristics were appropriate for the factorial analysis. The KMO analysis produced an index of .861 and the BTS was found to be highly significant ($\chi^2 = 9554.183$, $gl = 1770$, $p < .001$). Based on main component analysis with varimax rotation, it was found that there was a factorial structure made up of the seven main factors that collectively explain 40.1 % of the total variance. It should be noted that the first factor includes variables that explain 15.2 % of the variance; the second explains 8.1 %; the third explains 4.54 %; the fourth explains 3.87 %; the fifth explains 2.97 %; the sixth explains 2.78 %; and the seventh explains 2.60 %. Table 2 presents the rotated component matrix based on the varimax method in which the extracted component and the saturation of each of the evaluated test functions are presented. In order for these components to be considered significant, the values should be >.30; to be considered very significant, they should approach .50 (Comrey, 1985).

The first extracted component corresponds to a social learning perspective, emphasizing the role of family factors and social interaction in learning to read. For this first factor, referred to as the "socio-cultural theory" it may be seen that many of the items relate to the role of the family and the social environment [e.g., "I believe that when families interact with children regarding reading, reading acquisition is favored and improved" (.752), "I think that children need to be given a lot of motivation and should be offered new alternatives to encourage them to read" (.727), "I believe that, in addition to considering prior knowledge, it is also important to have stimulation in the home, etc. to facilitate learning to read" (.726), "When a school has resources such as a library and the classroom makes use of them, this motivates the child to read" (.595), etc.].This factor corresponds to the social theory of learning and it is important to note that this theoretical perspective includes sociolinguistic theory, sociocultural theory, the theory of social constructivism and the social cognitive theory (for a more complete review, see Tracey & Mandel, 2012). On the one hand, this factor differs from the constructivist concept of learning; on the other hand, it defends the importance of interactions with anyone that comes into contact with the child, not only teachers and the classroom. Based on this social learning perspective, Vygotsky (1979), with his "zone of proximal development" concept, explained how reading does not develop from that which the child already knows, but from new interactions with adults or other experts.

The second factor represents a "maturationist" perspective. According to these items, this factor emphasizes the idea that children need to mature and develop their psychomotor skills before they can begin the formal process of learning to read [e.g., "In my point of view, the ability to learn how to read in children is related to their psychomotor development" (.696), "In my opinion, in order to learn how to read it is necessary to have good spatial organization, and this is reinforced through the acquisition of body scheme perception" (.656), "I think that mastering spatial

orientation will help children to learn to read" (.611), "I believe that children with limited motor skills will have difficulties in learning to read" (.601), etc.].

The items making up the third factor focus on the role of correction in learning to read and it is referred to as "corrective theory" [e.g., "I think that in the early years of schooling it is necessary to correct children when they make mistakes while reading" (.739), "I feel that children should be corrected when they make mistakes while reading because this helps them to improve" (.736), "I think that immediate correction is good since it helps children to correctly express themselves when reading" (.662), "I think that correction helps children see the errors that they made when reading" (.649), etc.].

The fourth factor presents items referring to the role of repetition in learning to read [e.g., "I think that repetition is a very useful method in order for children to learn how to read and to correctly assimilate" (.762), "I believe that making children repeat the words that they have read incorrectly over and over is a good method" (.668), "I think that children need to see a word many times in order to be able to read it" (531), etc.].

The fifth factor, referred to as "nativist theory", emphasizes the opposite perspective, as it grants increased importance to the innate predisposition of children to learn how to read. This premise is reflected in those items suggesting that instruction is not as important and placing a greater emphasis on learning as an innate ability [e.g., "I think that there are children who learn to read on their own at an early age" (.575), "I think that there are children that may begin to read naturally because they are mature, without having to use a systematic process" (.570), "The reading process begins by showing children books, newspapers, etc.; it is not necessary to systematically teach them" (.473), etc.].

The sixth factor, referred to as "constructivist theory" emphasizes the active construction of knowledge by the individual [e.g., "I believe that in the early years of schooling, instead of correcting, it is better to allow children to discover their errors by rereading" (.688), "I believe that if a child discovers an error, they will not forget it, but if they are systematically corrected, this does not have the same effect" (.657), "I believe that sometimes, the mistake is made of correcting children when they make mistakes in reading, instead of letting them discover their errors on their own" (.636), etc.]. This factor attributes a more active role to the learner as it assumes that learning occurs when the individual has become capable of integrating new knowledge with the knowledge that they already possess.

Finally, the seventh factor, referred to as "psycho-linguistic theory", presumes that the learner should have attained linguistic development to the degree of understanding oral language prior to tackling the written language [e.g., "I think that it is premature for a child to learn to speak and read at the same time because at this stage children are still very immature" (.612), "I believe that the process of learning to read comes after oral language development. It may not be learned simultaneously since these are processes that develop after one another" (.532), "I think that learning to speak and read at the same time is possible since both of these things go together, because there are children that do not yet speak correctly bur are able to read a bit" (−.518), etc.].

Table 2 Factor loadings for varimax orthogonal seven-factor solution

Item	Factor loading
Factor 1: Socio-cultural theory	
I believe that when families interact with children regarding reading, reading acquisition is favored and improved	.752
I think that children need to be given a lot of motivation and should be offered new alternatives to encourage them to read	.727
I believe that, in addition to considering prior knowledge, it is also important to have stimulation in the home, etc. to facilitate learning to read	.726
When a school has resources such as a library and the classroom makes use of them, this motivates the child to read	.595
In my opinion, if the children see their teacher reading books and stories as something normal, they are showing them that reading is fun; thus they are awakening a love for reading in the children	.591
I think that positive reinforcement is always useful for learning how to read	.572
I think that when a child is exposed to different resources and environments, learning to read is strongly encouraged	.570
I think that it is important to stimulate oral language before, during and after teaching a child to read	.541
I believe that in interactions between children, reading skills are improved and acquired	.511
In my opinion, as long as early reading learning is natural and enjoyable, it will be very advantageous	.492
I think that children tend to copy teacher intonation when reading	.483
I think that children are motivated to help and be helped by other children in reading tasks	.462
I think that when children are in Early Childhood Education they are like sponges, capable of learning to read easily and through games	.458
I believe that all children need the support of a social environment that complements the process of learning to read	.427
Factor 2: Maturationist theory	
In my point of view, the ability to learn how to read in children is related to their psychomotor development	.696
In my opinion, in order to learn how to read it is necessary to have good spatial organization, and this is reinforced through the acquisition of body scheme perception	.656
I think that mastering spatial orientation will help children to learn to read	.611
I believe that children with limited motor skills will have difficulties in learning to read	.601
In my opinion, the child is a "global being" that needs to understand and control his/her body; until it is internalized, he/she will be unable to learn to read	.485
In my opinion, children should work on phonological awareness, making out the sounds contained by words when learning to read	.444
I believe that there is a relationship between understanding right and left and confusing certain letters when reading, such as b–d and p–q	.428
I think that since reading and writing go together, it may be necessary to have good psychomotricity skills since this will help them with their writing skills and writing in turn will help them with reading	.411
Factor 3: Behavioral theory (corrective)	
I think that in the early years of schooling, it is necessary to correct children when they make mistakes while reading	.739

Table 2 continued

Item	Factor loading
I feel that children should be corrected when they make mistakes while reading because this helps them to improve	.736
I think that immediate correction is good since it helps children to correctly express themselves when reading	.662
I believe that correction helps children see the errors that they made when reading	.649
I think that when children are beginning to learn how to read, our job is to try to make children aware of their mistakes	.645
I think it is necessary to make children understand the importance and usefulness of reading when they have made a mistake	.614
7 I believe that in order for a child to understand a text it is important that they understand each sentence	.331
Factor 4: Behavioral theory (repetition)	
I think that repetition is a very useful method in order for children to learn how to read and to correctly assimilate	.762
I believe that making children repeat the words that they have read incorrectly over and over is a good method	.668
I think that children need to see a word many times in order to be able to read it	.531
I think that when learning to read it is necessary to begin with the phonemes	.422
I think that it is vital to work with those phonemes that are easier to identify when children are learning to read (for example, phonemes that have extended pronunciation)	.416
In my point of view, more time should be spent with those children having less collaborative environments where there are fewer books, stories and motivation to read	.338
Factor 5: Nativist theory	
I think that there are children who learn to read on their own at an early age	.575
I think that there are children that may begin to read naturally because they are mature, without having to use a systematic process	.570
The reading process begins by showing children books, newspapers, etc.; it is not necessary to systematically teach them	.473
I think the role of the teacher as a guide is very important, since the child is the one that should discover reading	.388
Factor 6: Constructivist theory	
I believe that in the early years of schooling, instead of correcting, it is better to allow children to discover their errors by rereading	.688
I believe that if a child discovers an error, they will not forget it, but if they are systematically corrected, this does not have the same effect	.657
I believe that sometimes, the mistake is made of correcting children when they make mistakes in reading, instead of letting them discover their errors on their own	.636
I think that when correcting errors, teacher should not do so directly, but rather, they should give children clues as to where they may have gone wrong	.515
I believe that children should construct their own manner of learning to read	.474
Factor 7: Psycho-linguistic theory	
I think that it is premature for a child to learn to speak and read at the same time because at this stage children are still very immature	.612

Table 2 continued

Item	Factor loading
I believe that the process of learning to read comes after oral language development. It may not be learned simultaneously since these are processes that develop after one another	.532
I believe that learning to speak and read at the same time is possible since both of these things go together, because there are children that do not yet speak correctly but are able to read a bit	−.518
In my opinion, early reading depends primarily on maturity. If the child is not mature or does not have an appropriate environment they will not be able to learn to read on their own	.396
I believe that children feel the need to read from a very early age	−.377
I believe that learning to read is an innate skill	−.352

N = 591 and α = .88 for entire measure

In order to determine whether teachers from different cultural and geographical backgrounds use different theories of learning to read, a multivariate analysis of variance (MANOVA) was conducted using a general linear model with the inter-subject independent variable: Group (i.e., Spain vs. Mexico vs. Guatemala vs. Colombia vs. Ecuador), and with the dependent variables of the factorial scores corresponding to the learning theories identified via attributional analysis: constructivist, nativist, maturationist, social, repetition, corrective and psycho-linguistic. Results revealed an effect based on the Group variable with Wilks' Lambda = .58, $F(28, 1869) = 10.56$, $p < .001$, $\eta^2 = .12$. In order to determine which theories revealed differences between the teacher groups from the different countries, univariate analyses were conducted for each of the reviewed theories, that is, nativist, $F(4, 524) = 9.64$, $p < .001$, $\eta^2 = .06$; corrective, $F(4, 524) = 1.25$, $p = .28$, $\eta^2 = .009$; repetition, $F(4, 524) = 21.2$, $p < .001$, $\eta^2 = .13$; maturationist, $F(4, 524) = 4.06$, $p < .01$, $\eta^2 = .03$; constructivist, $F(4, 524) = 21.0$, $p < .001$, $\eta^2 = .13$; socio-cultural, $F(4, 524) = 3.97$, $p < .01$, $\eta^2 = .02$; and psycho-linguistic, $F(4, 524) = 8.23$, $p < .001$, $\eta^2 = .05$. Table 3 reveals the means and standard deviations of the groups for each of the reading learning theories.

Pair by pair comparisons revealed significant differences between the analyzed groups. Table 4 shows the *t values* and significance levels of the pair by pair comparisons made between the groups.

This means that significant differences exist between teachers from different countries in regards to the theories that they utilize in regards to learning to read. The socio-cultural theory was more commonly followed by Mexican teachers as compared to Spanish teachers. The maturationist theory was more typical of Guatemalan and Colombian teachers as compared to Spanish teachers. No differences were found between groups in regards to the repetition-based learning theory. The nativist theory was used less frequently by Mexican and Guatemalan teachers as compared to Spanish teachers, and Ecuadorian teachers also tended to use it more than Mexican, Guatemalan or Colombian teachers. The constructivist

Table 3 Means and standard deviations of the factor scores of the groups for each of the reading learning theories

	Group				
	Spain	Mexico	Guatemala	Colombia	Ecuador
Socio-cultural					
Mean	−.23	.21	−.11	−.12	.14
SD	1.02	.54	1.36	1.22	.67
Maturationism					
Mean	−.21	−.10	.20	−.11	.23
SD	.96	1.01	.86	1.19	.88
Corrective					
Mean	.06	.00	.13	−.03	−.18
SD	1.02	.91	1.00	1.04	1.07
Repetition					
Mean	−.17	−.47	.41	.46	−.05
SD	.81	.79	.95	1.19	.92
Nativist					
Mean	.27	−.18	−.28	−.06	.42
SD	.94	1.00	1.01	.93	.93
Constructivist					
Mean	−.53	.51	−.11	−.29	.12
SD	1.10	.77	.93	1.05	.87
Psycho-linguistic					
Mean	.52	−.16	−.18	−.04	.02
SD	.92	.96	1.01	.94	1.03

theory was more commonly accepted by Mexican, Guatemalan and Ecuadorian teachers as opposed to Spanish teachers. And of the former, Mexican teachers stood out from the Guatemalan, Colombian and Ecuadorian teachers. Ecuadorian teachers used it more often than Colombian teachers. Finally, the psycho-linguistic theory was used by Spanish teachers more than by the other groups.

Mean difference analysis was also used for related samples, in order to analyze which learning theories were most significantly attributed to each separate group of teachers. Table 5 shows the t-values and significance levels of the related sample comparisons for each group.

Spanish teachers were found to be more likely to be associated with the psycho-linguistic and nativist theories. Mexican teachers were more closely associated with the constructivist theory and both Guatemalan and Colombian teachers tended to be linked to the repetition-based theory. Finally, Ecuadorian teachers tended to rely on the nativist theory (see Figs. 1, 2, 3, 4, 5).

Finally, we also analyzed whether teaching experience could have an influence regards to the theories that teachers utilize in regards to learning to read. For each country we classified teachers as a function of low and high teaching experience based on Pc25 and Pc75 scores respectively. A multivariate analysis of variance (MANOVA) was conducted using a general linear model with the inter-subject

Table 4 T values and levels of significance of the comparisons for related samples for each of the groups

Learning theories	Group	t			
		MEX	GUA	COL	ECU
Socio-cultural	SPA	−3.28*	−.84	−.76	−2.52
	MEX		2.56	2.52	.52
	GUA			.05	−1.81
	COL				−1.80
	ECU				
Maturationism	SPA	−.89	−2.90*	−.69	−3.04*
	MEX		−2.34	.13	−2.51
	GUA			2.24	−.26
	COL				−2.40
	ECU				
Corrective	SPA	.44	−.46	.59	1.58
	MEX		−.99	.21	1.33
	GUA			1.09	2.14
	COL				1.02
	ECU				
Repetition	SPA	2.38	−4.35***	−4.57***	−.86
	MEX		−7.48***	−7.58***	−3.40**
	GUA			−.37	−3.52**
	COL				−3.76**
	ECU				
Nativist	SPA	3.41**	3.97***	2.29	−1.02
	MEX		.85	−.93	−4.62***
	GUA			−1.65	−5.12***
	COL				−3.37**
	ECU				
Constructivist	SPA	−8.26***	−3.19*	−1.78	−4.74***
	MEX		5.22***	6.49***	3.11*
	GUA			1.39	−1.76
	COL				−3.04*
	ECU				
Psycho-linguistic	SPA	5.17***	5.03***	3.87***	3.49**
	MEX		.18	−.95	−1.36
	GUA			−1.06	−1.44
	COL				−.38
	ECU				

SPA Spanish teachers, *MEX* Mexican teachers, *GUA* Guatemalan teachers, *COL* Colombian teachers, *ECU* Ecuadorian teachers

* $p < .05$ level of significance; ** $p < .01$; *** $p < .001$

Table 5 T-values and levels of significance of the comparisons for related samples for each of the groups

Group	T[a]	MAT		COR		REP		NAT		CON		PSI	
		t	r	t	r	t	r	t	r	t	r	t	r
SPA	SOC	−.10		−1.73		−.41	.05	−3.72***	.03	1.77		−4.81***	.28
	MAT			−1.94		−.30		−3.21**	.06	2.34*	.77	−5.37***	.32
	COR					1.65		−1.41		3.36***	.57	−3.09**	.46
	REP							−3.71***	.12	2.52*	.87	−5.94***	.43
	NAT									5.05***	.86	−1.59	
	CON											−7.28***	.009
	PSI												
MEX	SOC	3.12**	.54	2.39*	.37	9.29***	.39	3.94***	.69	−3.66***	.56	4.22***	.67
	MAT			−7.92		3.96***	.55	.74	.25	−5.54***	.40	.50	.24
	COR					4.88***	.52	1.65		−5.22***	.55	1.50	
	REP							−2.74**	.81	−11.5***	.03	−3.10**	.79
	NAT									−6.56***	.33	−.14	
	CON											6.81***	.89
	PSI												
GUAT	SOC	−2.26*	.05	−1.62		−3.28***	.22	1.05		−.03		.45	
	MAT			.57		−1.57		4.00		2.42*	.33	3.05**	.43
	COR					−1.99*	.29	3.30***	.40	2.01*	.22	2.29*	.30
	REP							5.43***	.72	4.41***	.53	4.05***	.62
	NAT									−1.41		−.76	
	CON											.60	
	PSI												

Table 5 continued

Group	T[a]	MAT		COR		REP		NAT		CON		PSI	
		t	r	t	r	t	r	t	r	t	r	t	r
COL	SOC	−.03		−.55		−3.50***	.27	−.34		.97		−.52	
	MAT			−.50		−3.04**	.28	−.33		1.02		−.55	
	COR					−2.89**	.41	.20		1.57		.07	
	REP							3.36***	.42	4.75***	.61	3.27***	.41
	NAT									1.70		−.16	
	CON											−1.79	
	PSI												
ECU	SOC	−.81		2.30*	.46	1.60		−2.62**	.40	.14		.97	
	MAT			3.24**	.45	2.35*	.32	−1.27		.83		1.60	
	COR					−.93		−3.93***	.22	−2.40*	.04	−1.29	
	REP							−3.25**	.39	−1.43		−.48	
	NAT									2.19*	.33	2.56*	
	CON											.78	
	PSI												

SPA Spanish teachers, *MEX* Mexican teachers, *GUA* Guatemalan teachers, *COL* Colombian teachers, *ECU* Ecuadorian teachers, *SOC* Socio-cultural, *MAT* Maturationism, *COR* Corrective, *REP* Repetition, *NAT* Nativist, *CON* Constructivist, *PSI* Psycho-linguistic

* $p < .05$ level of significance; ** $p < .01$; *** $p < .001$

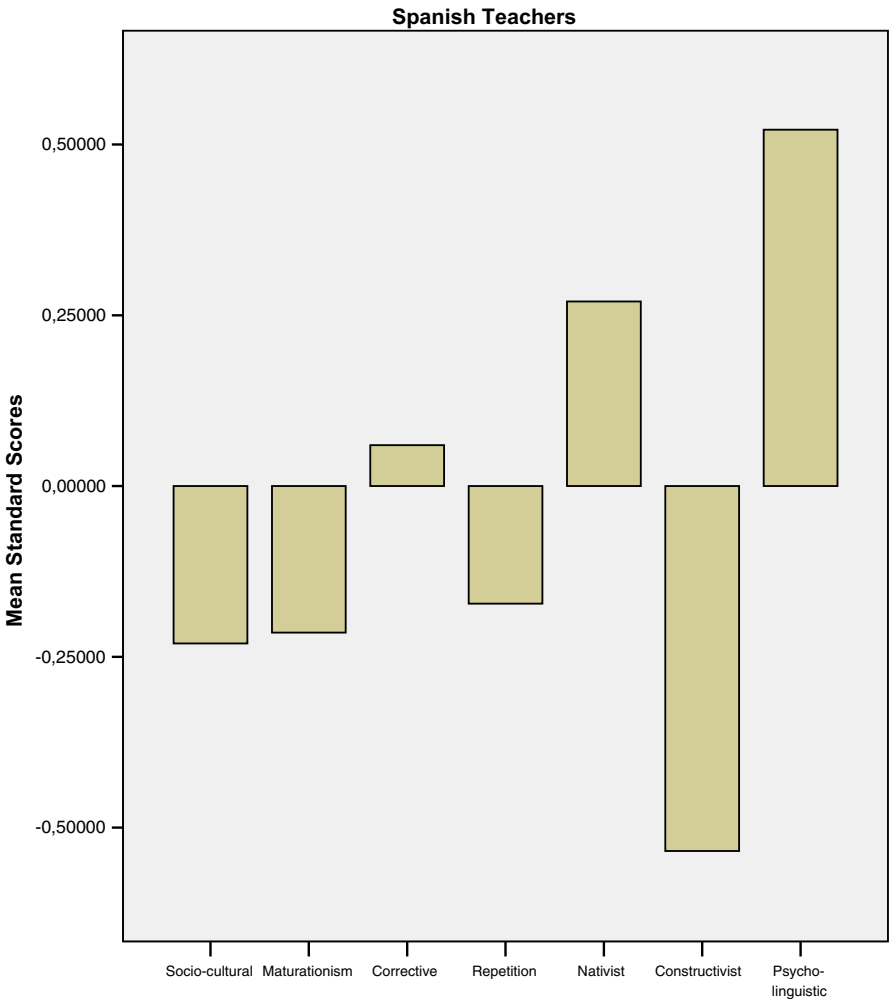


Fig. 1 Spanish in-service teachers' belief profile regarding learning to read

independent variable: teaching experience (i.e., low vs. high), and with the dependent variables of the factorial scores corresponding to the learning theories identified via attributional analysis: constructivist, nativist, maturationist, social, repetition, corrective and psycho-linguistic. Results revealed for each country that teaching experience had not an effect on teachers' implicit theories ($F < 1$).

Discussion

The main objective of this study was to determine the structure of the teacher theories on learning to read, and to analyze whether or not these implicit theories differ depending on the cultural and geographic context of the teachers. By

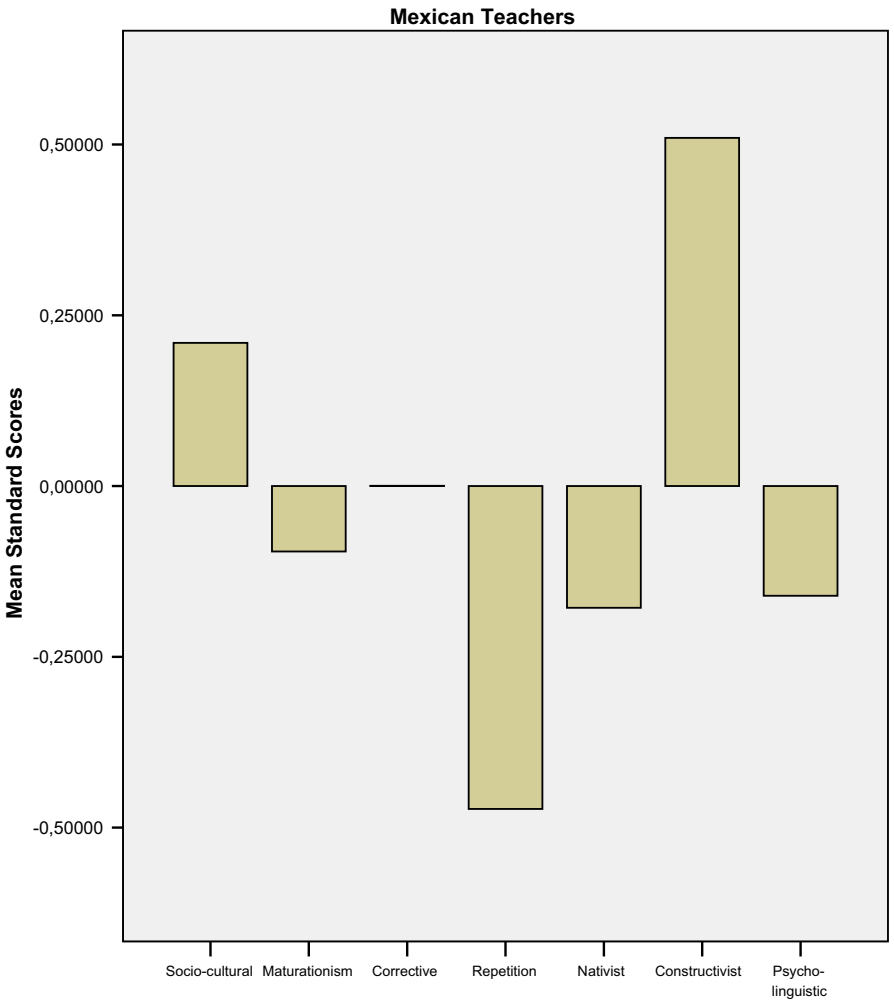


Fig. 2 Mexican in-service teachers' belief profile regarding learning to read

analyzing the main components, it was possible to identify the theories of learning to read that the teachers followed. It was found that many of these theories correspond to certain scientific theories which were identified in a previous study on representational bodies of the scientific theories (i.e., nativist, behaviorism, maturationist, constructivist, social and cognitive) (see Jiménez et al., 2014a, b). However, findings from the attributional analysis suggest that teachers tend to follow these theories in accordance with certain nuances that shall be described below.

We identified an initial factor that is closely linked to the "socio-cultural theory". On the one hand, it differs from the constructivist concept of learning while, on the

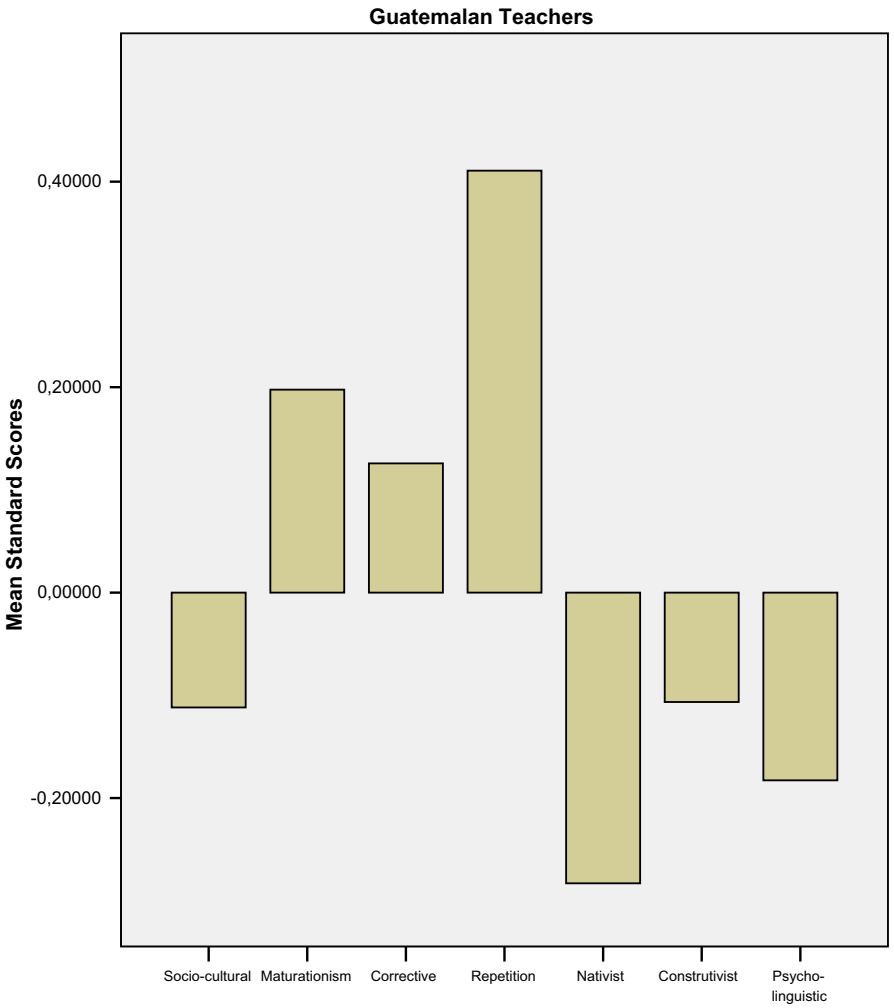


Fig. 3 Guatemalan in-service teachers' belief profile regarding learning to read

other hand, it defends the importance of interaction with everyone who comes into contact with the child, and not only teachers in the classroom.

The second factor represents a "maturationist" perspective. This perspective suggests that children must mature and develop their psycho-motor skills before beginning to learn to read. Therefore, the child is seen as a growing organism and believes that the role of education is to passively support this growth rather than actively fill the child with information.

The two factors that have been termed "corrective theory" and "repetition-based theory" correspond to a behavioral perspective of learning where reading is viewed as a skill made up of isolated abilities that must be reinforced in order to improve performance. That is, it focuses all attention on the consequences of these behaviors

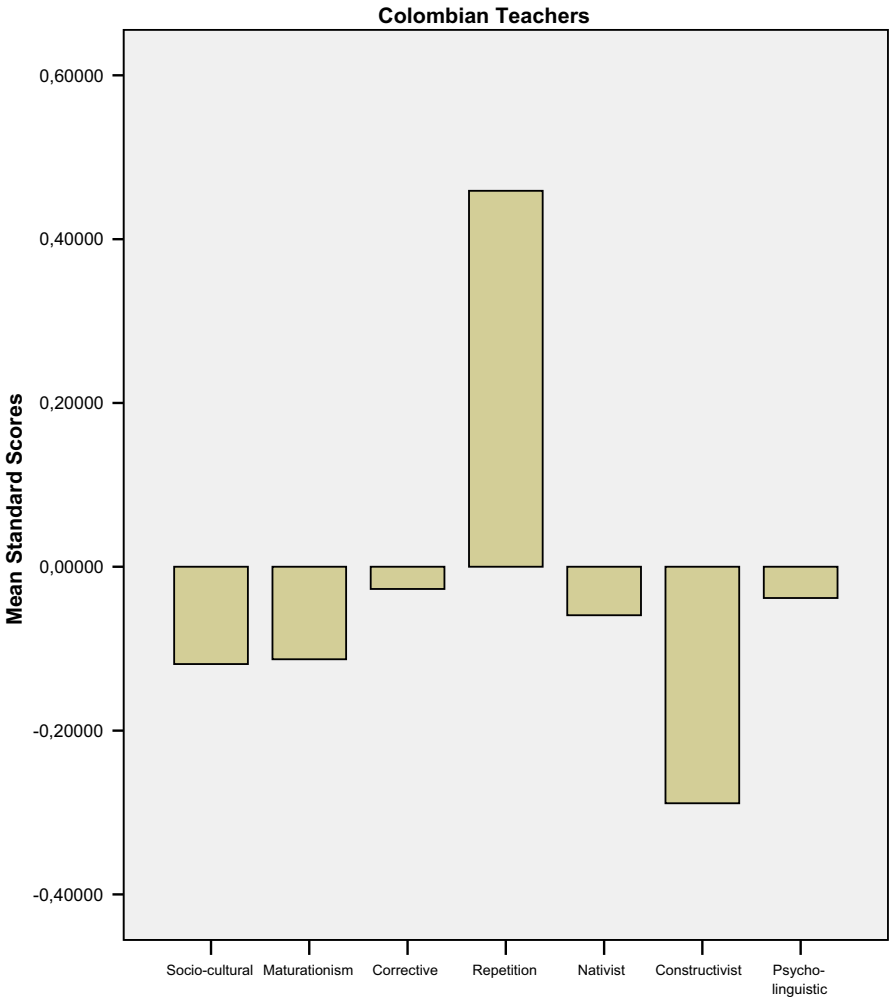


Fig. 4 Colombian in-service teachers' belief profile regarding learning to read

and suggests that reinforced responses will be repeated in the future (Ertmer & Newby, 1993). Thus, students do not play an active role, since behavior reinforcement and repetition modify the reading learning process. This theoretical process is currently associated to the direct instruction approach (Carnine, Silbert, Kame'enui, & Tarver, 2004).

Based on nativist theory, humans are born with a predisposition to learn to read, since language is acquired from biological pre-programming. Therefore, all individuals will develop language because they are pre-conditioned to do so, regardless of the complexity of the language. While Chomsky (1957) was the main advocate of this theory that was created in response to language acquisition, later

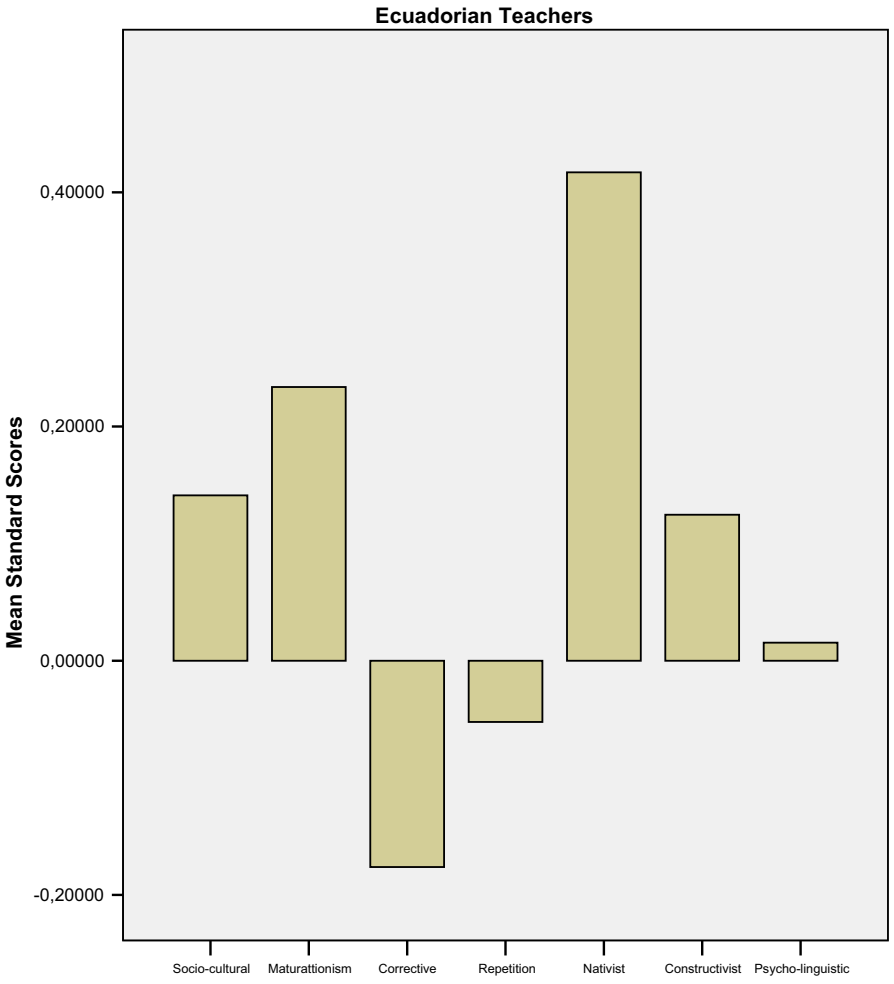


Fig. 5 Ecuadorian in-service teachers' belief profile regarding learning to read

approaches have considered its role in early reading (e.g., Cohen, 1983, 1989; Doman, 1970).

The "constructivist theory" includes those items referencing the active construction of knowledge by the individual. Based on this theory, learning occurs when the individual is capable of integrating new knowledge with knowledge that they already possess. This integration can only occur when the individual actively participates in the learning process, and social mediation is not a determining factor since the construction of progressively more complex intellectual constructions is an internal mental need (Gómez & Coll, 1994). According to this perspective, children may begin to assimilate the alphabetic code with the onset of the operational thinking stage.

Finally, the seventh factor is referred to as the "psycho-linguistic theory". It assumes that learning requires linguistic development to permit oral language comprehension prior to tackling the written language. The theories and models based on cognitive processing attempt to describe the mental mechanisms that underlie reading (e.g., the model of automatic information processing; the interactive compensatory model; the model based on the basic phonological hypothesis; the parallel distributed processing model; the dual route model; the double deficit of processing, see Tracey & Mandel, 2012 for a more extensive description of these). Overall, psycholinguistic theory suggests that reading is a complex and multi-faceted activity requiring the coordination of a series of automatic and unconscious processes. Some studies based on this perspective have suggested the relevance of a phonological component in learning to read (Jiménez & Guzmán, 2003). Proponents of this theory suggest that the development of phonological skills via the teaching process (stimulation or training) encourages learning to read (Bravo, Villalón, & Orellana, 2006; Clemente & Domínguez, 1999; Jiménez & O'Shanahan, 2010).

Similarly, when analyzing the groups of teachers separately, it was found that certain learning theories (one or more) were followed more closely than others. Understanding the beliefs of teachers from different countries, while considering cultural differences, may give us a more comprehensive view of the implicit theories of teachers on learning to read.

Finally, the learning theories attributed to the teachers from different Ibero-American countries do not appear to be directly related to dominant paradigm underlying most of their national curriculums such as the constructivist perspective and the competency-based focus of holistic understanding that emphasizes the constructive development of skills and abilities in children (see, for example, Spain, MECD, 2013; Colombia, MEN, 2003, 2010, 2014; Mexico, SEP, 2009, 2011; Guatemala, MINEDUC, 2005; Ecuador, MINEDUC, 2010). While no causal relationships have been determined between the teachers' learning theories and those that are the basis of national curriculums, our results suggest that the teachers' implicit reading theories are not necessarily linked to the dominant paradigm of their curriculum. In addition, teachers seem to adopt different educational beliefs independently of the number of years have taught. This finding would be consistent with the idea that teachers' beliefs appear to be relatively stable and resistant to change (Kagan, 1992).

It is important to determine the predominant implicit theories of teachers, before attempting to compete with, replace or modify teacher training programs (Loo, Omos & Granados, 2003). If the teacher training based on scientific research on how to instruct does not incorporate teacher beliefs, the guidelines and recommendations published in educational administration legislation will fail to have the desired effect (Moats, 2009). In fact, it may even be an obstacle, if teacher beliefs contradict that proposed by the scientific research. Literature on conceptual change suggests that personal beliefs function as the filter and foundation of new knowledge. That means that some of the personal beliefs a teacher brings to a learning situation facilitate learning, because they are congruent with the new knowledge to be learned; other beliefs impede learning, because they are inconsistent with the

knowledge to be learned. To promote conceptual change then it is necessary to help teachers make their implicit beliefs explicit (Kagan, 1992). Therefore, in addition to the role played by teacher knowledge on their ability to effectively teach students to read (McCutchen, Green, Abbott, & Sanders, 2009), teacher beliefs should also be taken into consideration since they may affect whether or not this instruction includes best practices (Fang, 1996).

With the present study we offer a portrayal of the nature of and structure of in-service teachers' beliefs of learning to read for use by educational researchers, policymakers, teacher educators and school administrators, and to explore the differences in teachers' beliefs of learning to read and profiles between Ibero-American in-service teachers. This study did not examine teaching practices, a potential limitation when attempting to establish a relationship between beliefs and practices. Future studies should attempt to determine whether or not beliefs on reading are related to teaching practices, and thus strengthen these practices through scientific recommendations that may optimize reading development in schools.

Acknowledgments This research study was funded by the National R&D&i Plan (Feder and the Ministry of Science and Technology) under Ref no.: PSI2009-11662 of the first author.

References

Ashton, P. T. (1990). Editorial. *Journal of Teacher Education, 41*(2), 2.

Bravo, L., Villalón, M., & Orellana, E. (2006). Predictibilidad del rendimiento en la lectura: Una investigación de seguimiento entre primer y tercer año [Predictability of reading performance: A follow-up study between first and third grades]. *Revista Latinoamericana de Psicología, 38*, 9–20.

Brown, C. A. (1985). *A study of the socialization to teaching of a beginning secondary mathematics teacher* (Unpublished doctoral dissertation, University of Georgia, Athens).

Carnine, D. W., Silbert, J., Kame'enui, E. J., & Tarver, S. G. (2004). *Direct reading instruction*. Upper Saddle River, NJ: Pearson.

Castro, F. (2009). Las teorías implícitas del profesorado de secundaria: Un análisis de la relación entre culturas de centro y teorías implícitas en enseñanza secundaria [Secondary school teachers' implicit theories: An analysis of the relationship between school culture and implicit theories on secondary education]. In J. A. Marrero (Ed.), *El pensamiento reencontrado [The rediscovered thought]* (pp. 117–135). Barcelona: Octaedro.

Cepeda, O. (2009). La "reflexión" y las teorías implícitas del profesorado: un análisis de las concepciones del profesorado de formación inicial [The "thought" and teachers' implicit theories: An analysis of the conceptions of in-service teachers. In J. A. Marrero (Ed.), *El pensamiento reencontrado [The rediscovered thought]* (pp. 218–245). Barcelona: Octaedro.

Chomsky, N. (1957). *Syntactic structures*. La Haye: Mouton.

Clark, C. M., & Peterson, P. L. (1986). Teachers' thought processes. In M. C. Wittrock (Ed.), *Handbook of research on teaching*. New York: Macmillan.

Clark, C., & Yinger, R. (1979). *Three studies of teacher planning*. East Lansing Institute for Research on Teaching, Michigan State University, Research Series No. 55.

Clemente, M., & Domínguez, A. B. (1999). *La enseñanza de la lectura: Enfoque psicolingüístico y sociocultural [Teaching to read: Psycholinguistic and sociocultural approaches]*. Madrid: Psicología Pirámide.

Cohen, R. (1983). *En defensa del aprendizaje precoz [In defense of early learning]*. Madrid: Nueva Paideia.

Cohen, R. (1989). *Aprendizaje precoz de la lectura, ¿a los seis años ya es demasiado tarde? [Learning to read early: Is too late at 6 years old?]*. Madrid: Cincel.

Comrey, A. L. (1985). *Manual de análisis factorial* [*A guide to factor analysis*]. Madrid: Cátedra.

Correa, A. D., & Camacho, J. (1993). Diseño de una metodología para el estudio de las teorías implícitas [Design of a methodology to study teachers' implicit theories]. In M. J. Rodrigo, A. Rodríguez, & J. Marrero (Eds.), *Las teorías implícitas: Una aproximación al conocimiento cotidiano [The implicit theories: An approach to daily knowledge]* (pp. 123–163). Madrid: Visor.

DeFord, D. E. (1985). Validating the construct of theoretical orientation in reading instruction. *Reading Research Quarterly, 20*, 351–367.

Doman, G. J. (1970). *Cómo enseñar a leer a su bebe [How to teach your baby]*. Madrid: Aguilar.

Ertmer, A., & Newby, J. (1993). Behaviorism, cognitivism: Comparing critical features from and instructional design perspective. *Performance Improvement Quartely, 6*(4), 50–72.

Fang, Z. (1996). A review of research on teacher beliefs and practices. *Educational Research, 38*, 47–65.

Fuchs, L. S., Fuchs, D., & Phillips, N. (1994). The relations between teacher's beliefs about the importance of good student work habits, teacher planning and student achievement. *The Elementary School Journal, 94*, 331–345.

Gómez, C., & Coll, C. (1994). ¿De qué hablamos cuando hablamos de constructivismo? [What we mean by constructivism?]. *Cuadernos de Pedagogía, 221*, 8–10.

Gove, M. K. (1983). Clarifyng teachers' beliefs about reading. *The Reading Teacher, 37*, 261–268.

Jiménez, A. B. (2009). Un contraste de ideas entre niveles educativos: Las teorías implícitas de los profesores de educación infantil y primaria, secundaria y superior [A contrast of ideas between educational levels: Implicit theories of teachers of kindergarten, primary, secondary and high school]. In J. A. Marrero (Ed.), *El pensamiento reencontrado [The rediscovered thought]* (pp. 46–93). Barcelona: Octaedro.

Jiménez, J. E. (2015). The Letra program: A web-based tutorial model for preparing teachers to improve reading in early grades. In P. McArdle & C. Connor (Eds.), *Advances in reading intervention: Research to practice to research*. Baltimore, MD: Brookes Publishing Co.

Jiménez, J. E., & Guzmán, R. (2003). The influence of code-oriented versus meaning-oriented approaches to reading instruction on word recognition in the Spanish language. *International Journal of Psychology, 38*, 65–78.

Jiménez, J. E., & Hernández, P. (1986). Métodos de lectura y diagnóstico instruccional [Methods of teaching reading and instructional assessment]. *Revista de Psicología General y Aplicada, 41*, 1063–1074.

Jiménez, J. E., & O'Shanahan, I. (2010). Enseñanza de la lectura: de la teoría y la investigación a la práctica educativa [Teaching to read: theory and research in practice]. *Revista Iberoamericana de Educación, 52*, 179–202.

Jiménez, J. E., Rodríguez, C., & Suárez, N. (2014a). *Cuestionario sobre creencias de los profesores sobre el aprendizaje de la lectura* [A survey questionnaire of teacher's beliefs about learning to read]. Universidad de La Laguna.

Jiménez, J. E., Rodríguez, C., Suárez, N., & O'Shanahan, I. (2014b). ¿Coinciden nuestras ideas con lo que dicen las teorías científicas sobre el aprendizaje de la lectura? [Our ideas coincide with those that say scientific theories about learning to read?]. *Revista Española de Pedagogía, 259*, 395–412.

Kagan, D. M. (1992). Implications of research on teacher belief. *Educational Psychologist, 27*, 65–90.

Lenski, S. D., Wham, M. A., & Griffey, D. C. (1998). Literacy orientation survey: A survey to clarify teachers' beliefs and practices. *Reading Research and Instruction, 37*, 217–236.

Loo, M. C., Olmos, A., & Granados, A. (2003). Teorías implícitas predominantes en docentes de cinco carreras profesionales [Implicit theories prevailing in teachers from five different career]. *Rev Enferm, 11*, 63–69.

Marrero, J. (1988). *Las teorías implícitas y la planificación del profesor* [Teachers' implicit theories and teacher planning]. Unpublished doctoral dissertation. Universidad de la Laguna.

Marrero, J. (1993). Las teorías implícitas del profesorado: vínculo entre la cultura y la práctica de la enseñanza [Teachers' implicit theories: A link between culture and practice in teaching]. In M. J. Rodrigo, A. Rodríguez, & J. Marrero (Eds.), *Las teorías implícitas: Una aproximación al conocimiento cotidiano [The implicit theories: An approach to daily knowledge]* (pp. 243–276). Madrid: Alianza Editorial.

McCutchen, D., Green, L., Abbott, R. D., & Sanders, E. A. (2009). Further evidence for teacher knowledge: Supporting struggling readers in grades three through five. *Reading and Writing: An Interdisciplinary Journal, 22*, 401–423.

Ministerio de Educación, Cultura y Deportes (MECD). (2013). *Proyecto de real decreto por el que se establece el currículo básico de la Educación Primaria, de la Educación Secundaria Obligatoria y*

del Bachillerato [Order draft for establishing the core curriculum of primary education, secondary education and bacherlorship] (www.mecd.gob.es).

Ministerio de Educación del Ecuador (MINEDUC). (2010). *Actualización y fortalecimiento Curricular de la Educación General Básica*: 2do. año. Versión Web [Updating and strengthening the general education basic curriculu: 2nd. year] (http://educacion.gob.ec/curriculo-educacion-general-basica/)

Ministerio de Educación Guatemala (MINEDUC). (2005). *Currículum nacional base nivel pre primario y nivel primario* [National curriculum for kindergarten and primary school level]. Dirección General de Gestión de Calidad Educativa—DIGECADE.

Ministerio de Educación Nacional de Colombia (MEN). (2003). *La revolución Educativa: Plan sectorial 2002–2006* [The educational revolution: A sectoral plan 2002–2006]. *Ministerio de Educación Nacional. República de Colombia,* 2003 (http://www.mineducacion.gov.co/1621/articles-85266_archivo_pdf.pdf)

Ministerio de Educación Nacional de Colombia (MEN). (2010). *Documento No 13. Aprender y Jugar, instrumentos de competencias básicas en Transición* [Document No. 13. Learn and play, instruments of core competencies in transition]. *Ministerio de Educación Nacional. República de Colombia,* 2010. (http://www.colombiaaprende.edu.co/html/competencias/1746/articles-292347_recurso_1.pdf)

Ministerio de Educación Nacional de Colombia (MEN). (2014). *Plan Nacional de Lectura y Escritura: Programas y proyectos* [National plan for reading and writing: Programs and projects] (http://www.colombiaaprende.edu.co/html/competencias/1746/w3-article-244105.html)

Moats, L. (2009). Still wanted: Teachers with knowledge of language. *Journal of Learning Disabilities, 42*, 387–391.

O'Shanahan, I. (1996). *Enseñanza del lenguaje oral y teorías implícitas del profesorado* [Teaching of oral language and teachers' implicit theories] (Unpublished doctoral dissertation, Universidad de la Laguna).

O'Shanahan, I. (2009). Las prácticas de enseñanza del lenguaje oral en Educación Infantil y las teorías implícitas del profesorado [Teaching practices of oral language and teachers' implicit theories]. In J. A. Marrero (Ed.), *El pensamiento reencontrado [The rediscovered thought]* (pp. 138–155). Octaedro: Barcelona.

O'Shanahan, I., & Jiménez, J. E. (1992). *Training course to change the teacher's beliefs on reading readiness*. Paper presented at XXV International Congress of Psychology. Brussels: Julio.

Rodrigo, M. (1993). Representaciones y procesos en las teorías implícitas [Representations and processes in the implicit theories]. In M. J. Rodrigo, A. Rodríguez, & J. Marrero (Eds.), *Las teorías implícitas: Una aproximación al conocimiento cotidiano [The implicit theories: An approach to daily knowledge]* (pp. 95–117). Madrid: Alianza Editorial.

Rodrigo, M., Rodríguez, A., & Marrero, J. (1993). *Las teorías implícitas: Una aproximación al conocimiento cotidiano [Implicit theories: An approach to daily knowledge]*. Madrid: Alianza Editorial.

Sang, G., Valcke, M., van Braak, J., & Tondeur, J. (2009). Investigating teachers' educational beliefs in chinese primary schools: Socieconomic and geographical perspectives. *Asia-Pacific Journal of Teacher Education, 37*(4), 363–377.

Secretaría de Educación Pública (SEP). (2009). *Currículum de Educación Básica: Plan de Estudios—Educación Básica Primaria [Curriculum for basic education: Syllabus—Basic primary education]*. Secretaría de Educación Pública: México.

Secretaría de Educación Pública (SEP). (2011). *Lineamientos de evaluación del aprendizaje [Guidelines for learning assessment]*. Secretaría de Educación Pública: México.

Shalvenson, R., & Stern, P. (1983). Investigación sobre el pensamiento pedagógico del profesor, sus juicios, decisiones y conductas [Research on teacher pedagogical thought, judgments, decisions and behaviors]. In Gimeno Sacristán, J. & Pérez Gómez, A. (Dir.), *La enseñanza: su teoría y su práctic*a [Teaching: Theory and practice] (pp. 83–97). Madrid: Akal.

Shin, S., & Koh, M. (2007). A cross-cultural study of teachers' beliefs and strategies on classroom behavior management in urban American and Korean school systems. *Education and Urban Society, 39*, 286–309.

Suárez, N., & Jiménez, J. E. (2014). ¿Influyen los años de experiencia y la especialidad de los profesores en las teorías implícitas que se atribuyen sobre el aprendizaje de la lectura? [Do years of experience and expertise of teachers influence the implicit theories attributed on learning to read?]. *International Journal of Developmental and Educational Psychology, 2*, 257–262.

Suárez, N., Rodríguez, C., O'Shanahan, I., & Jiménez, J. E. (2013). ¿Qué teorías sobre el aprendizaje de la lectura se atribuyen los profesores que enseñan a leer con diferente metodología? [What theories of learning to read are attributed by teachers that use different teaching methods?]. *European Journal of Investigation in Health, Psychology and Education, 4*(1), 55–65.

Tirta, T. (1999). The cross-cultural perspective on teachers' beliefs and their influence on teaching practices: A case study of two teachers teaching secondary mathematics in Australia and Indonesia. In J. M. Truran & K. M. Truran (Eds.), *Making the difference: Proceedings of the twenty-second annual conference of the Mathematics Education Research Group of Australasia* (pp. 494–501). Sydney: The Mathematics Education Research Group of Australasia.

Tracey, D. H., & Mandel, L. (2012). *Lenses on reading: An introduction to theories and models*. Londres: The Guilford Press.

Vygotsky, L. (1979). *El desarrollo de los procesos psicológicos superiores [The development of superior psychological processes]*. Barcelona: Crítica.