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Quality of the preschool educational environment and its relationship to emergent literacy skills

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ABSTRACT

The objective of this study is to relate the quality of the educational establishment's literary environment to the development of the emerging literacy skills of children attending preschool education in the Province of Concepción, Chile. An observational, quantitative, and correlational study was proposed that considered a sample of 38 pre-kindergarten classrooms, their preschool teachers, and 295 children. Educational orientations, processes and structural quality were all measured. Additionally, the children's literacy skills were assessed at the beginning and end of the year. For data analysis, descriptive statistics were used at the univariate level, and then bivariate correlational analysis was applied. The results revealed that the educational quality for literacy is basic, the emotional climate is adequate, and the beliefs of the teachers vary between adequate and inadequate. The children's progress in distinct emergent literacy skills was observed primarily in writing their names. The results also show that the quality of the environment for literacy is associated with better results for children regarding early reading and writing skills. Finally, the findings reveal the importance of promoting professional training to improve the quality of the literacy environment in the classroom and teacher practices that support language development and the skills that are precursors of literacy.

Contribution/Originality: This study addresses the educational quality of literacy environments in Chile from a multidimensional perspective which allows delving deeper into the development of emergent literacy and moving towards a way to measure the factors associated with this ability in early ages.

1. INTRODUCTION

Learning to read is considered one of the keys to information and academic and social success. Reading is a social and cultural activity that occurs in a variety of settings throughout people's lives. It is an essential instrument for the development of personality as well as social and cognitive abilities which creates opportunities for personal growth (Cassany, 2006). As a result, educational policies have been oriented to promote literacy since the early years of schooling. The goals that are set for preschool children favor timely and pertinent learning and the strengthening of its potential for harmonious development. One of these learning areas is related to the development of early literacy skills considered to be precursors to conventional reading and writing (Lonigan,

Schatschneider, & Westberg, 2008). Research has established that children who have reached these learning goals demonstrate to be better prepared to get the benefits of formal instruction and reach the goals established by the curriculum. Similarly, there is enough empirical evidence that supports that child development is strongly influenced by the daily experiences that are offered by the school environments where they are inserted. As a result, early exposure to reading and writing in high-quality environments is essential. In this sense, focusing efforts during the first years of schooling can be seen as a chance to transform essential conditions to address reading and writing in these early stages.

Therefore, this study attempts to answer the following question: Is there a relationship between the quality of the literacy environment of the activity room attended by pre-kindergarten children and the development of emergent literacy skills? Therefore, the objective was to relate the quality of the educational establishment's literacy environment and its dimensions (structural, process, and educational orientations) to the development of the emergent literacy skills of children attending pre-kindergarten.

2. REVIEW OF LITERATURE

2.1. Skills for Emergent Literacy

Currently, one of the relevant aspects in the international literature concerning preschool education is related to the effects of emergent literacy on the acquisition of definitive reading and writing. Early education has started to be valued for its capacity to respond to the serious challenge of literacy in the early years given that a large percentage of the children in this age group (four to five years old) attend preschool (Cunningham, 2010; Skibbe, Connor, Morrison, & Jewkes, 2011). The concept of emergent literacy designates a new approach to the evolution of reading and writing in young children referring to the set of capabilities defined as precursors to the learning of conventional reading and writing whose development occurs during the preschool age before formal schooling (Drainville, Dumais, & Marinova, 2020; Martini & Sénéchal, 2012; Mol & Bus, 2011; Teale & Sulzby, 1986; Whitehurst & Lonigan, 1998). International research has detected several skills associated with literacy but the consensus is that oral language, print knowledge, phonological awareness, knowledge of the alphabet, and letter writing are the best predictors of success in formal instruction (National Early Literacy Panel, 2008; Pavelko, Lieberman, Schwartz, & Hahs-Vaughn, 2018; Puranik, Phillips, Lonigan, & Gibson, 2018; Schwartz, 2009). These abilities are derived from the child's interactions with their social and cultural surroundings, including their interactions with books and readers who discuss what they read (Martini & Sénéchal, 2012). The importance of studies on emergent literacy has made it possible to point out the existence of significant disparities in the progress achieved by children in the path to become literate and that these differences affect the process of learning to read and write in the school context (Allan, Joye, & Lonigan, 2017; Hannon, Nutbrown, & Morgan, 2020; Lonigan, Allan, & Lerner, 2011). In this regard, it is suggested that children who have developed these skills prove to be better prepared to get the benefits of formal schooling and to achieve the objectives set by the curriculum within the established time frame. Those children who show a low development of these skills at the start of their formal education progress more slowly and in a more limited way as a result of the lack of opportunities in their daily environment (Lonigan et al., 2011). Thus, the importance of early reading and writing experiences in high-quality learning environments becomes apparent particularly for children from backgrounds where they are not often exposed to these kinds of stimuli. Therefore, during preschool education, children should have varied and challenging experiences that allow them to acquire the abilities necessary to become skilled readers by adequately developing emergent literacy skills that permit the later development of conventional reading and writing (Cunningham, 2010; Merino, Mathiesen, Domínguez, Rodríguez, & Soto, 2018; Thompson, Richardson, Newman, & George, 2019).

2.2. Preschool Educational Quality

Guaranteeing the quality of early childhood educational environments has become a key issue in research and educational practice worldwide. Quality assurance is traditionally done through state and community regulations (laws and financial regulations, among others). However, achievements have been limited as is shown by some studies (Tietze, 2004). Nevertheless, new orientations have been developed in recent years to ensure educational quality evaluating each center in relation to diverse characteristics (Heckman, 2011; Tietze, 2004). There exists a consensus among specialists that educational quality is a complex and multifaceted construct (Tietze & Viernickel, 2010) which includes all the environments in which children develop and can be approached from different perspectives. This construct considers the following three subdomains: structure, process, and educational orientations (Bronfenbrenner & Morris, 2007; Lehrl & Smidt, 2018; Sheridan, 2017; Tietze, 2004). The structure is related to the level of training received by the adults, the adult-to-child ratio, infrastructure, materials, and group size. The teaching process involves the interactions between the children, the adults, and the material as well as the available experiences. Finally, educational orientations are related to the ideas, beliefs, expectations, values, and principles of the adults involved in the educational process regarding the children and their families. Tietze (2004) suggests that certain pedagogical practices are associated with child development and learning notably, direct contact with the child, the different stimuli they receive, the type of interaction between adult and child, the initiatives to choose activities, the climate and tone of interactions, the inclusion of children in processes and experiences and the inclusion of the family in the pedagogical task.

2.3. Literacy Environment in Early Childhood

Studies examining the characteristics of the literacy environment are based on a growing body of research that shows educational environments to be an important factor in understanding individual differences in young children's educational achievement (Burchinal et al., 2008; Entwistle, Alexander, & Olson, 1997; Peisner-Feinberg & Yazejian, 2010). Ecological theory maintains that the integral development of the child is strongly influenced by the daily experiences offered by the contexts in which they live. The home followed by the educational center is the environment in which the large majority of children between the ages of four and five spend most of their time.

In the educational context, research has identified specific characteristics that appear to be particularly influential in the development of literacy in its structural and process aspects. Some authors have proposed an alternative name for physical and psychological literacy environments (Guo, Justice, Kaderavek, & McGinty, 2012).

The structural dimension of the literacy environment involves physical materials in the classroom that are available to the children (Cao, Grace Kim, & Cho, 2023; Justice, Mashburn, Hamre, & Pianta, 2008; Yang, Zimmermann, Bartholomew, Purtell, & Ansari, 2023). A high-quality environment includes a classroom library that is properly organized with a large assortment of books ranging in their level of complexity and offering diverse genres (Justice et al., 2008; Kılınçcı & Bayraktar, 2021). Rich environments also encourage exposure to varied writing experiences, letting children engage with writing through a variety of instruments and materials (Bingham et al., 2022; Drainville & Charron, 2021). The process dimension also known as the instructional environment, refers to the ways in which teachers engage with children to support literacy development on a daily basis (Guo et al., 2012; Justice et al., 2008). In high-quality environments, teachers promote a learning environment that is both positive and supportive in which children frequently take part in conversations, there is vocabulary modeling, feedback, and explicit dialogue on concepts and functions associated with literacy (Justice et al., 2008; Snow, Griffin, & Burns, 2007; Whitehurst & Lonigan, 1998). Educational orientations constitute part of the teachers' general knowledge that guides the way they perceive, process, and act on information in the classroom. Beliefs about literacy are "what they [teachers] assume, think, and know about how young children develop literacy skills, what they perceive a teacher's role in this process to be and how they feel they should implement these practices in a

classroom" (Hindman & Wasik, 2008). In early childhood, they have been linked to topics significant to the instruction of young children, including the selection of pertinent practices for the support of language and literacy (Brown, Molfese, & Molfese, 2008; Burgess, Lundgren, Lloyd, & Pianta, 2001; Vartuli, 1999).

2.4. Quality of the Literacy Environment and Emergent Literacy Skills

A considerable amount of research has shown the positive impact that high-quality programs and education centers enact in the development of language and literacy skills (Melhuish et al., 2015; Slot, Bleses, Justice, Markussen-Brown, & Højen, 2018) and in preventing later reading difficulties (Snow et al., 2007) especially in the case of children who come from social backgrounds of higher vulnerability (Hannon et al., 2020). In this regard, the relevance of factors such as the amount of stimuli to which the children are exposed, learning opportunities, and time committed to instructional tasks stand out (Guo et al., 2012). Associated studies have proposed that classroom literacy environments allow for the achievement of highly predictable patterns of children's behavior. Additionally, it is evident that classroom literacy environments influence children's interactions with materials related to literacy (Drainville & Charron, 2021; Dynia et al., 2018; Merino et al., 2018). The characteristics of structure, process, and educational orientations seem to have an effect on the behavior and development of emergent literacy skills at an early age. Research results have supported that having a library with an assortment of attractive books fosters literacy skills (Justice et al., 2008).

Children's interest in and desire for reading are increased when they are given books with a variety of subjects and genres (Vukelich, Christie, & Enz, 2012). Furthermore, factual evidence endorses the relevance of providing informative books for children in preschool and during formal education as they increase academic vocabulary, general knowledge, and listening comprehension (Kraemer, McCabe, & Sinatra, 2012). Similarly, Peisner-Feinberg and Yazejian (2010) detected that children who attended preschools with high-quality practices displayed higher development in their receptive language skills as measured in kindergarten. Mashburn et al. (2008) demonstrated that preschool children who participated in experiences characterized by high degrees of instructional support (e.g., quality of feedback) underwent a greater advancement on two literacy measures, those being rhyme and alphabet knowledge. Regarding the national context, numerous studies have centered on analyzing the quality of the learning experiences and stimuli to which children are exposed in the educational context. A study by Treviño, Toledo, and Gempp (2013) that analyzed the level of performance of early childhood teachers' teaching practices found heterogeneity in the quality of interactions, an adequate classroom climate, and acceptable productivity. However, the pedagogical support that considers linguistic modeling, concept development, and reading and writing focus was the lowest. Orellana-García and Melo-Hurtado (2014) detected a low-quality educational environment, evidencing a lack of reading and writing materials appropriate for the age and interests of the children, and in a high percentage of the classrooms. There was no use of books or spaces appropriate for this category of activity. A lack of quality strategies aimed at encouraging early literacy specifically with respect to interactions intended to promote language use, authentic reading and writing activities and a curriculum oriented towards developing these emergent skills was confirmed. A study by Merino et al. (2018) on teacher professional development and its relationship with emergent literacy showed advances in the general quality of the initiation of reading and writing as well as in language and print knowledge. However, no significant impact was observed on the individual emergent literacy skills of preschool children.

3. METHODOLOGY

3.1. Research Design

This is an observational, quantitative and correlational study that considered the random selection and assignment of educational establishments, classrooms, and participating subjects. It consists of evaluating one of the micro systems with which the child interacts (the activity room) and associated variables, according to the

ecological model (Bronfenbrenner & Morris, 2007). Aspects of structural quality, process and orientations of the adults in charge were measured. In addition, emergent literacy skills were assessed both at the beginning and the end of the year. This study was developed in 2021 in the context of the pandemic and the progressive return to face-to-face activities.

3.2. Research Population and Sample

This study considered 38 pre-kindergarten classrooms, randomly selected from 38 educational establishments of municipal, subsidized and private dependency from 11 cities in Concepción Province, Chile. The participants correspond to 38 preschool teachers and 295 children aged four who attended pre-kindergarten with six to eight children being randomly selected per classroom (see Table 1).

Table 1. Sample of participants.

Analysis units	Municipal establishment	Subsidized private establishment	Private paid establishment	Total
Number of classrooms	17	17	4	38
Number of preschool teachers	17	17	4	38
Number of children	130	134	31	295

At the beginning of the school year (March 2021), most institutions were closed due to the pandemic, and courses were conducted virtually. Therefore, contact with the educational centers was made mostly by cell phone. The tests were applied to the children on the following two occasions: at the beginning (April and June 2021) and at the end of the year (November and December 2021) through an online modality using the platform Zoom and the Classkick tool. The dates for the application of the tests and the delivery of the protocol for the use of technological tools were coordinated. The observation instruments for the classroom were applied between October and November in the context of the return to face-to-face classes.

The application of the instruments involved a group of 10 preschool teachers who were trained by the researcher in charge.

The parents were informed before the study and signed informed consent authorizing the participation of their children. Authorization was also obtained from the educational centers and the preschool teachers. These documents were examined in advance and authorized by the Ethics, Bioethics and Biosecurity Commission of the University of Concepción.

3.3. Instruments

3.3.1. At Child Level

The Initial Literacy Test (ILT) (Villalón & Rolla, 2000) evaluates five fundamental components of the process of acquiring conventional reading and writing skills. Its main purpose is to identify the level of development of pre-reading skills or emergent literacy. It is made up of several types of tasks: phonological awareness, print awareness, alphabet knowledge, and emergent reading and writing. The reliability of the instrument was measured, with the results showing a Cronbach's alpha of .72 for the total scale and between .73 and .78 for the subscales.

The child's sociodemographic background form records the personal data of the child such as their date of birth, the child's participation and attendance in kindergarten, their number of siblings and birth order.

3.3.2. At the Education Center Level

The Caregiver Interaction Scale (CIS) (Arnett, 1989) is an observation instrument that measures the socio-emotional climate of the activity room specifically the interactions between the adult and the children in his or her room. It consists of 26 items organized into 3 sub-scales: attachment, sensitivity and toughness which are scored

from 1 to 4 and which record the presence of certain behaviors of the teacher, according to whether they manifest always, usually, sometimes or never. Half of the scale's items measure negative behaviors which are scored inversely. Mathiesen, Villalón, and Suzuki (2000) report highly adequate reliability for the total scale with a Cronbach's alpha of .92.

Early language and literacy classroom observation (ELLCO) (Smith, Brady, & Anastasopoulos, 2008) is an observation instrument that evaluates aspects of educational quality in the classroom environment regarding language and emergent literacy. It consists of 19 items organized into two sub-scales: "general classroom environment" which consists of the following two parts: classroom structure and curriculum and the language and literacy sub-scale that considers 3 the following sections: language environment, books and book reading, early writing and print knowledge. Since most classrooms lack reading areas and resources, books and book reading section was ignored due to the epidemic. The items have scores based on a 5-point scale that ranges from 1 "poor" to 5 "exemplary". The reliability of the instrument was measured showing a Cronbach's alpha of .91 for the total scale and between .83 and .86 for the subscales (Soto Muñoz, Rodríguez Navarrete, Merino Escobar, Mathiesen DeGregori, & Domínguez Ramírez, 2018).

Preschool Teacher Literacy Beliefs Questionnaire, PTLBQ (Seefeldt, 2004) adapted by Hindman and Wasik (2008) is a questionnaire that addresses early childhood teachers' beliefs concerning the development of language and emergent literacy skills. It consists of 30 statements organized into 4 domains: a) code-related skills, b) oral language and vocabulary, both with nine items, c) book reading with five items, and d) writing, with six items. Items have scores based on a 5-point Likert scale that goes from 1 "strongly disagree" to 5 "strongly agree." There are 12 inverted items that were reversed; therefore, all high scores reflect beliefs consistent with the most appropriate practices for teaching language and emergent literacy.

Hindman and Wasik (2008) report a high reliability of .87. In the current study, the total scale scored a Cronbach's alpha of .73.

Teacher's form for obtaining information on structural aspects is as follows: sociodemographic and work aspects of the teacher and characteristics of the classroom and the establishment.

3.4. Data Analysis

For this study, the statistical program SAS Statistical Analysis System (SAS) version 9.4 was used as the main software. The data related to educational quality in its different dimensions and the emergent literacy tests were analyzed in a descriptive manner and the average and standard deviations were included. A Pearson correlation analysis was applied to find the relationships between the subdomains: structural quality, process quality and educational orientations and the children's scores. Finally, differences in the average were established depending on class modalities and type of institution.

4. RESULTS

This section describes the results in the following order: first, the ones concerning the quality of the classroom studied, then the results regarding emergent literacy (ILT) and lastly, the ones about the relationships between the quality of the school and emergent literacy.

4.1. Subdomains of Educational Quality

Regarding the structural variables considered, Table 2 shows that the average age of the teachers is forty-two with a high deviation and a wide range of variation. The years of work experience and those working with children are congruent with the age of the teachers. The average contract hours are close to full-time and the lowest range corresponds to half-time. The average number of children enrolled in the classroom is 24. However, the average attendance of the children is lower reflecting the pandemic situation in which the study was carried out. Regarding

the process variables, the emotional climate of the activity room is high with an average of 3.5 out of a possible maximum of 4 which is indicative of the rooms mostly having an adequate climate while the quality of the educational environment for literacy has an average of 3.4 which reveals that the overall educational quality is basic. Finally, the average of the teacher's beliefs about language and literacy shows variation in the degree of agreement about the best practices fluctuating between beliefs that are more or less consistent with the most appropriate ones.

Table 2. Educational quality averages.

Educational quality dimensions	Mean	SD	Minimum	Maximum
Structural quality				
Age of the teacher	42.16	8.99	26	63
Years of work experience	15.75	9.32	1	39
Years in the establishment	10.18	8.21	0	38
Years working with children	12.44	8.99	1	38
Contract hours	38.36	5.83	20	45
Training hours	9.89	23.65	0	90
Number of children enrolled	24.17	8.41	9	45
Number of children present in the classroom	4.30	3.23	0	9
Process quality				
Emotional climate (CIS)	3.48	0.31	2.32	3.84
Literacy quality (ELLCO)	3.40	0.70	1.85	4.85
Quality of educational orientations				
Beliefs scale (PTLBQ)	3.43	0.29	2.8	3.9

4.2. Initial Literacy Scores

Table 3 presents the results of the initial literacy test displaying task scores and total scores in both the first and second measurements. Out of a theoretically achievable total of 73 points, the children evaluated obtained 29.4 and 33.3, respectively. Regarding the results by tasks, it can be seen that in phonological awareness, out of a maximum obtainable total of 20 points, the average achieved in the first measurement is close to half and slightly above this in the second measurement. Something similar happens with print knowledge, given that out of the theoretical total of 10 points, the average is above 5 in the first measurement and almost 6 points in the second measurement. In emergent reading, in the first and second measurements, the average is below half of the 12 achievable points with a slight increment in the second measurement. In knowledge of letters, the lowest average is observed: out of a total of 27 letters, the children know an average of 6 in the first measurement and 8 in the second. In contrast, the highest average is observed in the writing of their own names. In this regard, out of a total of 4 points, the average achieved is 2.6 and 3.3, respectively.

Table 3. Initial literacy test average.

Initial literacy test sections	First measurement			Second measurement		
	N	Mean	SD	N	Mean	SD
Phonological awareness	285	9.79	3.71	275	10.47	3.50
Print knowledge	283	5.21	2.32	273	5.96	2.27
Emergent reading	277	5.26	3.31	267	5.52	2.82
Knowledge of letters	290	6.02	5.81	275	7.93	6.14
Writing of their own names	268	2.55	1.22	275	3.31	0.98
ILT total	258	29.4	11.87	263	33.3	11.62

4.3. Structural Quality of the Educational Environment and Emergent Literacy

Table 4 presents the correlations of the structural variables and emergent literacy. It is observed that the age of the teacher, years of experience and years working with children did not present significant correlations with any measurement. In the second measurement, a significant and positive correlation is detected with the teacher's training, meaning, the more hours of training, the higher the children' literacy average. Furthermore, in the second

measurement, a trend that does not reach significance is observed with the number of children enrolled, that is, the higher the number of students enrolled, the lower the results of the literacy tasks. Finally, a significant and negative relationship was found regarding the number of contract hours of the teacher. This correlation appeared in the first measurement, losing significance in the second measurement. Nevertheless, a trend is maintained: the greater the number of contract hours, the lower the average observed in literacy.

Table 4. Correlations of structural quality and emergent literacy.

Variables	N	First measurement ILT		Second measurement ILT	
		r	P	R	p
Age of the teacher	263	-0.03	0.68	0.002	0.97
Years of work experience	263	-0.07	0.27	0.03	0.63
Years in the establishment	258	0.04	0.52	0.13	0.03
Years working with children	258	-010	0.10	-0.02	0.73
Contract hours	258	-0.14	0.03	-0.09	0.16
Training hours	263	0.07	0.29	0.14	0.02
Number of children enrolled	258	0.03	0.63	0.12	0.06
Number of children present in the classroom	263	-0.15	0.01	0.09	0.15

Table 5 presents the results of the initial literacy test associated with the modality of the classes developed during this study, in April and October, respectively. In the first measurement, during the modality of the initial classes, the children's average was significantly higher when the modality was hybrid, and the virtual modality was 4.56 points lower. In the second measurement, the significance increases, and a new class modality is a recorded, in-person class with children scoring a significantly higher average than that of the participation in the other two modalities: 16.37 points higher than those who attended hybrid classes and 22.91 higher than those who participated only in virtual classes. This would indicate that attending fully in-person activities favors the learning of emergent literacy skills.

Table 5. Comparison of average of the initial literacy test according to class modality.

First measurement ILT			
Modality of classes 1	**Average**	**N° cases**	**Test**
Virtual	26.34	83	t=2.94
Hybrid	30.90	175	p= 0.004
Second measurement ILT			
Modality of classes 2	Average	N° cases	Test
In-person	A 50.17	6	F=10.85
Hybrid	B 33.80	219	p<0.0001
Virtual	B 27.26	27	r=0.073

4.4. Quality of Process and Educational Orientations and Emergent Literacy

With respect to the process variables, it can be seen in Table 6 that the quality of literacy assessed with ELLCO correlates significantly and positively with total emergent literacy with greater significance in the second measurement than in the first. This allows us to assume that the better the quality for literacy, the better the children's performance scores. The total quality of the room is significantly correlated with the writing of their own names. On the other hand, quality is correlated with phonological awareness and print knowledge only in the second measurement while with emergent reading and knowledge of letters, there is significance only in the first measurement.

Regarding the emotional climate of the room, a relationship was detected only with the writing of their own names in both measurements with a higher strength and significance in the second measurement. Regarding the teachers' beliefs, positive relationships were found with total emergent literacy and with the writing of their own

names in both measurements. A relationship was detected only in the first measurement with emergent reading, knowledge of letters and phonological awareness. These relationships are all positive and demonstrate that with beliefs that are more consistent with best practices regarding language and literacy, the children obtain higher scores in emergent literacy.

Table 6. Correlations of quality of the educational process and beliefs of the educator with the development of literacy.

Variables	ILT total	Phonological awareness	Emergent reading	Print knowledge	Writing of their own names	Knowledge of letters
First measurement						
Literacy quality (ELLCO)	0.16**	0.06	0.09	0.09	0.14 *	0.13 *
Emotional climate (CIS)	-0.06	-0.08	-0.11	-0.04	0.13 *	0.02
Beliefs scale (PTLBQ)	0.21****	0.12 *	0.17 ***	0.04	0.28 ****	0.13 *
Second measurement						
Literacy quality (ELLCO)	0.16**	0.17 ***	0.09	0.17***	0.25****	0.11
Emotional climate (CIS)	-0.004	-0.007	-010	0.01	0.16**	0.05
Beliefs scale (PTLBQ)	0.14*	0.11	0.06	0.08	0.24****	0.10

Note: *p< 0.05, ** < 0.01, *** < 0.005, **** <0.001.

4.5. Contextual Variables and Emergent Literacy

Table 7 shows that there are significant differences in the average of emerging literacy abilities based on the three categories of dependencies in both metrics about the educational establishments' reliance. The highest average corresponds to children who attend private schools; the second average corresponds to subsidized schools, and the lowest average corresponds to those who attend municipal establishments.

Table 7. Comparison of initial literacy test averages by type of establishment.

First ILT measurement			
Dependency	**Average**	**Nº Cases**	**Test**
Private	A 36	27	F=15.7
Subsidized private	B 31.5	128	p< 0.0001
Municipal	C 25.1	120	r=0.1
Second ILT measurement			
Private	A 42	25	F=19.96
Subsidized private	B 35.5	125	p< 0.0001
Municipal	C 28.9	113	r= 0.13

5. DISCUSSION

The study's findings allow for the relationship between the quality of the literacy environment of an educational establishment and its dimensions (structural, process and educational orientations) and the development of emergent literacy skills in children attending pre-kindergarten to be addressed.

5.1. Educational Quality of the School Environment

The results reveal that the quality of classroom literacy is basic according to the parameters established by ELLCO as evidenced by the lack of opportunities to interact with written materials appropriate to the children's age and interests, low reading frequency, and the absence of early writing experiences. These results may be explained by the pandemic context in which the study was conducted, the existing health constraints, and the gradual move back towards in-person attendance. Nevertheless, the results coincide with previous studies indicating that when

ELLCO is used for its assessment, the quality of the classroom literacy environment tends to fall in the "basic" category, with print environment and early writing being the lowest aspects, frequently evaluated as "inadequate" (Arteaga, Thornburg, Darolia, & Hawks, 2019; Barker, Kim, & Pendergraft, 2022; Drainville & Charron, 2021; Landry et al., 2021; Merino et al., 2018). These levels are regarded as deficient in assisting children's development, raising concerns as evidence shows that instructional support from teachers and access to diverse written materials promote children's oral expression and early literacy learning (Dynia et al., 2018) mainly benefiting those children from disadvantaged backgrounds (Hannon et al., 2020; Melhuish et al., 2015; Slot et al., 2018).

Positive relationships between teachers and students, typical displays of affection, and a lack of harsh or threatening behaviours are all indicators that the emotional climate of the classroom is acceptable. These results are consistent with studies that highlight that preschool educational environments are positive, teachers provide greater emotional support and show greater consideration for the children's perspectives (Barros et al., 2016; Treviño et al., 2013). With respect to this, Bassok and Galdo (2016) state that classroom climate is an essential element for developing quality education, and it would frequently appear as a powerful predictor of learning (Treviño et al., 2013).

Regarding educational orientations, the examination of the beliefs of the teachers and their agreement with best practices for the teaching of language and literacy shows that the professionals presented variation, fluctuating between beliefs more or less in line with the most appropriate practices in similar proportions. These findings are consistent with Seefeldt (2004) and Hindman and Wasik's (2008) report highlighting the challenges of the initiation of reading and writing at an early age which center around ensuring that teachers have extensive knowledge regarding emergent literacy and its implications for teaching which means that progress must be made in strengthening the initial and continuous training of teachers, especially in the field of oral and written language development (Merino et al., 2018).

5.2. Emergent Literacy

The results of the initial literacy test generally show an improvement of almost 4 points in the children's scores between the first and second measurements. However, out of a theoretical total of 73 points, the children only reach 29.4 in the first measurement and 33.3 in the second. A more detailed analysis regarding the sub-tasks shows that the lowest average is observed in knowledge of letters of the alphabet. Out of a total of 27 letters, the children know an average of 6 and 8 letters in the first and second measurements, respectively. In contrast, the greatest advances were found in the writing of their own names. Out of a total of 4 points, the average achieved corresponds to 2.6 and 3.3, respectively. One possible explanation for these findings is that teaching young children to write their names is taken greatly in early childhood education as a means of introducing them to written language and developing the basis for reading.

5.3. Structural Quality and Literacy

One of the findings of this study was the significant and positive relationship with the training of the teacher. In other words, the children who participated in the classes of teachers with more training hours in language obtained a higher average in emergent literacy. In this regard, some research has shown that high-quality learning experiences and literacy interactions may depend on the teachers' knowledge of language and literacy development, more than access and material support (Dickinson & Caswell, 2007; Roskos & Neuman, 2011). These results are in line with studies that highlight the importance of teacher professional development. Teachers who have had more opportunities to acquire knowledge on best practices in the development of oral language throughout their teaching career and especially in their professional development can impact children's learning.

A noteworthy result that may be noticed from the perspective of the pandemic has to do with the method of teaching used by the students to participate in the study. Regarding the in-person modality, observed during the

second measurement, children who attended school had higher scores than those who participated in hybrid education and those who only participated in virtual classes. These results raise the importance of in-person activities which allows us to confirm that when children attend an activity room, they get the opportunity to access diverse experiences, interaction between peers, and contact with varied material. All instances would favor early literacy.

5.4. Process Quality, Educational Orientations and Emergent Literacy

Regarding the process variables and their relationship with emergent literacy, this study found that the quality for literacy assessed using ELLCO correlates significantly and positively with the measures of total emergent literacy, with greater significance in the second measurement. These results allow us to propose that the better the quality of the educational environment, the better the performance scores of children. It was found that the total quality score of the room is significantly correlated with writing their own names in both measurements. On the other hand, emergent reading and knowledge of letters are correlated only in the first measurement, and phonological awareness and print knowledge only in the second one. These results are consistent with the research of Guo et al. (2012) and Kennedy (2013) which have shown positive relationships between the quality of the educational environment for literacy and the development of skills related to reading and writing. High-quality educational support encourages children to interact with the literacy resources they have at hand (Dynia et al., 2018) and improve their literacy skills (Drainville & Charron, 2021).

These results are consistent with studies that suggest that in high-quality literacy environments, teachers promote a positive and supportive learning environment characterized by children's participation in frequent conversations, vocabulary modeling, feedback, and explicit discussion of terms and functions associated with literacy (Justice et al., 2008; Pianta & Hamre, 2009; Snow et al., 2007; Whitehurst & Lonigan, 1998).

Regarding the emotional climate, a relationship was only detected by writing their names in both measurements with a higher strength and significance in the second measurement. This would reveal that the emotional climate of the room, although positive, would not have a significant effect on the development of the skills that form the basis for the acquisition of reading and writing. This might suggest the existence of an adequate climate with positive interactions between the teachers and children with low intentionality regarding the practices that are associated with the development of emergent literacy skills (Treviño et al., 2013).

The study also allowed for the exploration of the relationship between the teachers' beliefs and results in emergent literacy. The findings show positive correlations regarding total emergent literacy and writing their own names in both measurements and with emergent reading, knowledge of letters, and phonological awareness in the first measurement. Therefore, the assertion can be made that when beliefs are more in line with best practices regarding language and literacy, there are higher scores in emergent literacy. In this sense, the different types of beliefs and knowledge of the teachers can serve as a mechanism through which children's practice and learning can be influenced (Tietze & Viernickel, 2010). With respect to this, it is proposed that one of the most powerful tools that a teacher can possess is the ability to understand theories associated with the acquisition of written and oral language along with the ability to translate theory into practice (Terrell & Watson, 2018).

5.5. Context and Emergent Literacy

Regarding the dependency of educational establishments, the results of this study show significant differences in the averages of literacy skills. Children who attend private establishments have the highest average, followed by those who attend subsidized schools and the lowest average corresponds to children who attend municipal establishments. These results show the gap that exists between different educational realities, and that the attention received by children from different contexts does not satisfy the learning needs that must be addressed to develop

the precursory skills for reading and writing. Therefore, it is essential to carry out interventions to improve said quality.

6. CONCLUSION

Given that the quality of the educational environment for literacy contributes to the development of skills and lays the foundation for the acquisition of conventional reading and writing, it is imperative to expand the knowledge on this aspect.

The results of this study demonstrate the need to develop and deepen intervention programs that aim to improve the quality of the literacy environment, since this has turned out to be basic. This is even more necessary in institutions intended for the most disadvantaged sectors which show even greater difficulties regarding the quality of care received. Similarly, the findings regarding the relationship between educational quality and the development of emergent literacy skills underscore the importance of supporting the professional development of teachers to improve the quality of the literacy environment in the classroom and educational practices that contribute to the development of language and the precursory skills that form the base of learning to read and write.

7. RESEARCH IMPLICATIONS

This research contributes to the advancement of knowledge by collecting evidence regarding the characteristics of the literacy educational environments in which four and five-year-old children develop, and how they are connected with the growth of literacy skills, considering that pre-kindergarten attendance in the national context is approaching universalization and is mainly concentrated in municipal, subsidized private, and paid private schools. Although there exists prior research on educational literacy environments, there are no studies in Chile that address this topic from a multidimensional perspective. Similarly, this study is expected to be used as a guide for the development of new research directions. It would be interesting for future studies to explore educational quality in multicultural contexts and different modalities of educational care and to evaluate the long-term effect of the quality of the literacy environment. Finally, these results could be useful for the design of educational policies and for training institutions for early childhood educators.

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