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Development of Historical Thought in Primary Education: Analysis of an Intervention in Colombian Schools

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Abstract: The main goal of this study was to analyze the development of historical thinking abilities in two groups of fourth graders in Colombian schools. The study consisted of the design, implementation, and evaluation of a three-month pedagogical intervention. After an initial assessment, nine learning activities were implemented. An Intervention Group (IG) received the intervention, while a Control Group (CG) served as a comparison. The assessment comprised three main areas (Historical Sources, Narratives, and Change and Continuity). The results of the intervention indicated that the IG performed better than the CG in the assessment. Introducing concepts that favor historical thinking development such as working with historical sources, identifying change and continuity, and constructing narratives, seems to promote the construction of historical knowledge in a complex way. Pedagogical interventions focused on the development of these concepts provide information on the progression of learning and the ability of children to understand the past.

Introduction

Although the reflection on best practices in the teaching of history is not new, a line of research on the didactics of history as a scientific field has been consolidated in recent decades. This development has been closely linked to innovation and educational renewal within the framework of a fruitful dialogue between the psychology of learning and the epistemology of history. Dominant lines of research have their origin in the 1970s in the United Kingdom, where they have continued to develop until today. These include substantive concepts, second-order concepts, ideas of students in relation to the concepts of empathy, causes and historical sources (Ashby et al, 2016; Lee, 2005; Lee et al, 2000, Tim et al, 2018; Baron, 2016; Boerman-Cornell, 2015). The strengthening of the field continued in the 1990s in the United States and Canada, today the most productive countries have yielded studies focused on the teaching and learning history with children and youth (Levstik et al., 2005; Levstik et al., 2015; De Leur, 2017, Huijgen, et al, 2017; Palacios, 2019, 2021). Early on, scholars focused on the progressions in learning history (Levesque, 2008). Other authors were concerned about helping students develop
historical awareness and historical thinking (Seixas, 2011; Seixas et al., 2013; Gómez et al., 2017; Martínez et al., 2018; Mc Cully et al., 2016; Montanares, 2017); teaching history in the context high schools (Wineburg, 2001, 2007); innovating and evaluating historical thinking (VanSledright, 2011, 2014).

Subsequently, this reflection about historical thinking expanded to European countries such as Holland, Spain, Germany, and Portugal. Here, works have been carried out on awareness and historical perspective (Rüsen, 2007; Huijgen et al., 2017); historical thought and heritage (Barca, 2010, 2011; Barca et al., 2006); historical thinking competences (Carretero et al., 2014; Dominguez, 2015); and the use of textbooks in the teaching of history (Gómez et al., 2014). In recent decades, this field of study has also reached Latin America, where work has been carried out focusing on deficiencies in teaching and learning, as well as on the need for a renewal in teaching history (Cerri et al., 2010; González & Gárate et al., 2017; Plá, 2010; García et al., 2006).

In Colombia, research has focused on aspects such as the need to improve educational practices in the teaching of history (Acevedo et al., 2012; Arias, 2014; Sánchez, 2013; Vega, 2008); and the results of the history tests and the perceptions of the students (Palacios, 2018a). More recently, the field has moved to understanding violence, the armed conflict, and the teaching of history in Colombia (Arias, 2018; Páez et al., 2019; Palacios, 2018b, 2019). In general, the work carried out in Colombia has focused on middle and high school. Indeed, Cooper (2013, 2014a, 2014b) identified the need to develop historical thinking since childhood and work with elementary students.

To explore this need, this study analyzes the development of academic skills concerning historical thinking in two groups of 4th grade students. Specifically, this study asks: What historical thinking abilities can be fostered through a pedagogical intervention in primary children from two public schools in Cundinamarca, Colombia? To answer this question, one of the groups received a pedagogical intervention (IG) and the other served as a control (CG). The pedagogical intervention consisted of the planning, design, implementation, and evaluation of a pedagogical intervention that included creative activities around the use of historical sources, the construction of narratives, and the identification of change and continuities in artifacts of daily life used in the past and in the present.

### Historical Thought: Conceptualization

The development of historical thinking implies learning new skills in the interpretation of the past, moving beyond conceptual and memory knowledge (Gómez et al., 2014) towards a much more elaborate level of thought (Lee et al., 2000; Levesque, 2008; Levstik et al., 2005; Plá, 2005; Plá et al., 2013; Santisteban, 2010; Santisteban et al., 2010; González, 2002). This goal is important, so students understand how historians build and solve their research problems in their surroundings. Historical thinking evidence learning about a discipline that requires history knowledge, its own concepts, methods, investigation, and development rules (Gómez et al., 2014; Sáiz et al., 2014; Seixas, 2011; Seixas et al., 2013; VanSledright, 2004, 2014; Wineburg, 2007; Clark, 2011; VanSledright et al., 2006).

There are three main elements in the re-conceptualization of historical thinking: (1) the importance of using appropriate methodological procedures to history, (2) the development of comprehension skills, and (3) the need for progression in student learning to be evident (Barton,
2008; Levstik et al., 1997; Seixas et al., 2013; Carretero et al., 2009; Carretero et al., 1993). To realize these three elements, researchers of the didactics of history have highlighted how it is important to implement teaching strategies that appeal to both first order and second-order concepts (Seixas et al., 2013) First-order concepts include aspects such as chronology and conceptualization. This is the kind of knowledge that has traditionally been taught in Colombian schools (Palacios 2019).

Second order concepts include strategic content that seeks to organize and explain first order concepts. Second order concepts are related to the historian's practice and the ability to think historically (Ashby et al., 2016; Stearns, et al., 2000; VanSledright, 2011). Second order concepts are defined by the set up or deployment of multiple strategies, abilities or competences that allow someone to respond to historical issues and to understand the past in a more complex way. This kind of historical knowledge is related to a historian’s skills such as searching, selecting, and treating historical sources, as well as having empathy or a historical perspective. In Seixas and Morton's (2013) perspective, there are second order concepts whose learning involves developing reasoning skills superior to those needed to learn substantive concepts from history, namely: historical relevance, sources, and historical evidence, change and continuity, causes and consequences, historical perspectives, and ethics dimensions. For Lee and Ashby (2000) and Lee (2005), learning history should include both first order and second-order concepts. This is because second order concepts define the path to make history, this is to say: they define the historian’s work and allow the arrangement of their knowledge, providing them with an understanding of their discipline.

One of the axes to emphasize in the development of historical thinking is its need to be taught. Recent research in the field of social science didactics in general, and of history, have shown that historical thinking is not innate and requires an academic process with specific didactic strategies, and that the teachers are familiar with these strategies. (Lee et al., 2000; Plá, 2010 & 2013; Plá et al., 2013; Wineburg, 2001). Expanding this discussion, Levstik and Bartón (2001) and Pagès (2009) indicate that one of the main challenges of training history teachers is to reconfigure the disciplinary approach and enrich the pedagogical and didactic component. From this approach, the training of history teachers should be oriented so that they implement history classes aimed at the development of skills and not the reproduction of content, contributing to students reaching greater cognitive developments, constructing more significant knowledge, and increasing their communicative capacity (interpretation, argumentation, and proposition)

These strategies support several larger goals in the teaching of social sciences. The first is citizen education. This process of citizen education requires the acquisition of a historical consciousness: understanding how the past contributes to understanding the present. As a second part of citizen education, historical thinking is an indispensable tool for citizens to exercise an enlightened participation in a democracy (Barton et al., 2005; Barton et al., 2004; Martineau, 1999; Pagès, 2009; Rüsen, 2007; Souto, 2011; Stearns et al., 2000). The teaching of history is also fundamental to learning critical thinking skills. By learning about historical thinking, one develops a critical point of view concerning the contents transmitted by the media, the social, economic, and political situations of the context in which a person lives, the vindication of rights, and the rejection of phenomena such as corruption, exclusion, and inequality (Palacios, 2019).
The Development of Historical Thinking Skills in Primary School

Regarding the skills that should be developed in history classes in primary school, research has pointed out the importance of maintaining some skills that teachers usually work with, in addition to including other skills that have been taught but have been poorly developed by students. Skills such as chronology, rupture, change, permanence, successions, durations, simultaneities, help primary students learn to contextualize and frame historical knowledge (Guibert, 1994; Hernández, 2002; Lourenco Da Silva, 2001; Ortega, 1997). In addition, Carretero (1997) emphasizes the importance of maintaining and making more complex the teaching of chronological notions. He proposes the inclusion of other skills that contribute to primary students’ understanding of historical time. From his perspective, there are three skills: chronologically arranging events at different times; classifying events that, despite occurring at different times, are similar in historical development; and establishing causal relationships between historical events that occurred at different moments in history, both short and long-term.

With primary students, Cooper (2013) signals the importance and necessity of teaching history using creative means. This is because history is a favorable scenario for the development of creativity and, in turn, creativity is necessary for the development of historical inquiry skills. According to Cooper, history does not have one, but several versions, and it is up to historians to identify the problems to investigate based on questions, which are part of the development of children's creative ability. Additionally, creativity gives children the tools to evaluate sources, to make inferences, and to interpret them. According to Cooper (2013), creative skills are developed in learning history when children make their own representation of the past and analyze historical facts from a critical point of view, when they can obtain conclusions and construct arguments. Some activities to develop creative skills are those that involve the use of primary documents found in local archives such as censuses, maps, newspapers, images, or documents on any element of the students' environment. These are activities that actively involve students, which stimulate their interest and above all develop research skills, historical thinking and social awareness and belonging to a specific environment (Cooper, 2002).

Cooper’s proposal (2002) for primary education suggests that children must learn to organize events in a sequence, learn to use the language related to the passage of time and identify causes and effects of events, based on the context of their own lives and those of their family, until they slowly reach people from a more distant past. In agreement with the last part of Cooper's argument, Barrenetxea (2008) and Pluckrose (1993), emphasize that the experiences lived by the children constitute the best starting point for learning about history. For Cooper (2002), the ability to work with historical sources such as reading images, objects, places, and testimonies, encourages children to observe, question, think critically and comment on their ideas with others to begin to understand it.

The familiarity of children with diverse historical sources helps children in primary school gain enough confidence to give their opinions about how objects are made, what they are made of, why do things happen, and how do they work. The work with sources helps that, since primary school the students learn to develop their language using both past and present time and to expand their vocabulary, examining the meaning and sounds of new words (Cooper, 2002, p.50).

Another skill that should be developed in primary education, according to Cooper (2002), is the development of interpretations through storytelling and story writing. Although Cooper (2002) points out that children are more likely to listen to stories than to invent stories, “once
they are given the opportunity to narrate, they progressively learn to understand the structure of a story, and to see the link between their problems, the cause and the action” (p. 113). For this author, the setting, and the expression of ideas of characters and specific situations can help children to understand different opinions, points of view and perspectives, and to think about them in a critical and creative way. In addition, Pagès and Santisteban (1999) argue that temporal language is fundamental in the historical narrative, “the narratives that the students build can be important resources for the learning of temporal concepts, the use of the narration becomes an important instrument in the construction of the temporality of children” (p. 290).

Method
Research Overview

The research was aimed to foster the development of historical thinking in 4th graders from two public schools in Cundinamarca, Colombia. The skills that were promoted during the intervention were: use of sources, construction of narratives, and the understanding of change and continuity in history. The purpose of the intervention was to connect the learning goals from the curricular standards of Colombian legislation with the formation objectives from the learning plan of the educational institution in which the experiment was applied. A mixed methods design was used that allowed the triangulation of qualitative and quantitative data that were obtained from the pedagogical intervention. The article aims to answer the question: What historical thinking abilities can be fostered through a pedagogical intervention in primary children from two public schools in Colombia?

Context and Participants

A non-stratified probabilistic sample was used for the selection of participating schools. Then, 10 out of 383 schools from Bogotá and 5 out of 21 schools in Soacha Cundinamarca were randomly selected. These 15 schools were invited to be a part of the investigation. Two of the institutions accepted, and the researchers committed to present the results of the study to the institutions. After that, the intervention and control group were randomly selected from the fourth-grade groups of the two institutions. The sample size was calculated based on the possible effect of a pedagogical intervention in the development of historical thinking in primary students. The parameters to calculate the sample size were an alpha of 0.05, a power of 0.95, and an effect size d= 0.80. The calculation yielded a sample size of 24 participants in each group. This calculation was performed using G-Power (Faul et al., 2007).

The sample included 70 elementary school students (4th grade) from two public schools in Cundinamarca, Colombia1 (9 to 10 years of age). The intervention group (IG) was composed of 35 boys and girls aged between eight and ten years, who lived in Kennedy’ town in Bogotá at the time of the study. The Socio-economic status of the participants ranges between 1 and 22, with 6 being the highest, with a major concentration of population in stratum 2. Most of the

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1In Colombia elementary school consists of 1st to 5th grade
2 The socio-economic status is a stratification of residential properties that receive public services. Socio-economic status is also used to guide the planning of public investment; carry out social programs such as expansion and improvement of infrastructure of public services and roads, health and sanitation, and education and recreational services in the areas that require it the most.
children’s families live in rent homes and depend economically on only one of the parents; live with single parents. Only 5% of the parents or persons in charge of taking care of the children have college education, 75% of them have at least some high school education, and 20% have just completed primary education. About 15% of the parents work in formal jobs, as employees from the public or private sector, while the other 85% work in informal jobs as peddlers, employees in marketplaces, or as house cleaners in houses with greater economic inputs. Additionally, 3 out of 35 families were internally displaced by the armed conflict. The group of children (35), who participated in the investigation as a control group, live in the municipality of Soacha near Bogota. Only 3% of the parents or persons in charge of taking care of the children have college education, 70% of them have high school education (either complete or incomplete), 7% have just primary education, and the 10% are illiterate. Their economical stratum is between 1 and 2. Just like the first group of children, most of their families -90%- live from informal jobs with low incomes and no social security. Additionally, 7 out of the 35 families have experienced internal displacement by the armed conflict.

The study was approved by the Ethics Committee at the School of Education in Universidad de los Andes. All participants and their parents signed a consent form and agreed to participate.

Research Design

Preparation and development of the pedagogical intervention: Activities prior to the pedagogical intervention

The first step was to determine the previous knowledge and historical thinking skills students had. A diagnostic task was implemented in two different stages:

In the first stage, the learning goals defined by the Ministry of Education in the curricular guidelines and standards for 4th grade of primary school were contrasted with the learning goals that the teacher had traditionally been working in the classroom.

In the second stage, students completed an examination through two exercises: first, a narrative about the way of life of the pre-Columbian indigenous groups based on what they learned the previous year, in 3rd grade. And second, an exercise in which students had to answer questions based on the photograph of a piece of gold of the Quimbayas Indians: what information about the life of the Quimbayas gave us the piece? How important is studying gold pieces and other utensils of the pre-Columbian indigenous groups and why?

The 4th grade teacher of the Intervention Group acknowledged the need of designing and implementing pedagogical strategies that lead to students’ development of the following abilities: (i) asking questions about pre-Hispanic Colombian people: (a) come up with answers that provisionally answer these questions; (b) using different types of sources, in order to obtain the information; (c) organizing the information obtained using different forms of text, and; (d) establishing relationships between information located in different sources, and coming up with answers to the posted questions. This reflecting process constitutes the origin of the pedagogical intervention.

These families had to abandon their lands and their belongings because of threats from violent groups that seized their territories. They will look for shelters in very poor neighborhoods of cities like Bogotá and Soacha.
Development of the Pedagogical Intervention

The skills that were promoted during the intervention were the use of historical sources, the construction of narratives, and the understanding of change and continuity in history. The intervention connects the learning goals from the curricular standards of Colombian legislation with the formative objectives from the learning plan of the educational institution in which the experiment was applied. A mixed methodological design was used that allowed the triangulation of qualitative and quantitative data that were obtained from the pedagogical intervention carried out.

The teacher and the researchers decided to focus the work of the pedagogical intervention on the development of these skills for two reasons: first, to read and understand facts, social, cultural, and political phenomena by registering and synthesizing assertive communicative resources that allow the problematization of stories and narratives from students’ identities; and second, to recognize Colombian regions’ economical, cultural, and historical diversity.

The main pedagogical resource used was the Didactic Backpacks designed by the Bank of the Republic of Colombia to teach about prehispanic cultures. The Didactic Backpacks contain original pieces of prehispanic cultures and replicas of some of the pieces from Museo del Oro. The materials aim to help children to learn that objects from the past are footprints of their ancestors, and, consequently, of Colombian history. Another goal of the Didactic Backpack is to help children value arqueological pieces as a symbol of historic richness. As students interact with the Didactic Backpacks they can develop historic thinking abilities, through curiosity and the interaction with the pieces inside the Backpack.

The materials in the backpacks simplify the construction of knowledge, because besides the archaeological pieces, the instructions of the backpacks contain various games, situations and explorations that allow children to advance in their own search for new knowledge about Colombia’s past, and about the current society as well. According to the instructions card suggested for the teacher, “the backpack contained both genuine pottery figures (between 500 and 2,000 years old) as well as some replicas of pottery and gold work. These objects are the center of the backpack’s applications, especially for grades 2nd to 7th. They constitute a plausible museum. The cards from each object promote the abilities of observation and curiosity”.

As a starting point for the pedagogical intervention, students were invited for an exploration visit to Museo del Oro in Bogota. Initially students selected the cultures that they were going to work with (Muiscas and Nariño) during their visit to the Museo del Oro. With the intention of expanding the information on the pre-Hispanic indigenous groups that were selected by the students to work on the pedagogical intervention, two of the cultures represented in the Didactic Backpacks are described below. The detailed description of the activities carried out during the intervention is found in appendix 1.

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4 It is a Museum created and administered by the Bank of the Republic of Colombia, in which part of the historical heritage (pieces of gold and ceramic) of the pre-Hispanic cultures of the Country is preserved.
5 The Muiscas were indigenous people who inhabited the Cundiboyacense highlands and the South of the department of Santader, located in the Eastern Colombia between 600 BC and the present. In 1600 the Spaniards subdued the Muiscas. In the present, their direct descendants live in towns such as Suba and Bosa in the district of Bogota, and in neighbouring municipalities such as Cota, Chía and Sesquilé.

The Nariño indigenous people lived during the seventh century in the cold Andean highlands in the border between Colombia and Ecuador, in the current department of Nariño. These people buried their caciques in tombs with depths...
Learning activities that were designed and applied in the intervention. It also show the abilities learned in each of them. Detailed descriptions of each of the learning activities carried out with children are found in the appendix of the document.

Assessment Instruments

The design of the assessment instrument was based on the learning evaluating exercises that were proposed in the works of Ercikan et al. (2015); Levstik et al. (2015); VanSledright, (2014); Sáiz et al. (2016); Tarr (2016); and Wineburg et al. (2013). Their work served as a reference, because this kind of studies have just started to be implemented in Colombia. Therefore, after examining international theoretical and methodological proposals regarding the investigation of historical thinking in elementary school education, it was possible to define analysis categories to study the usage of historical concepts by Colombian children.

The researchers analyzed three main factors with their respective subdivisions: in Historical Sources, the ability to formulate questions, infer and explain were evaluated. From the Narratives, abilities such as interpretation, construction, and identification. In Change and Continuity, the abilities included were identification and inferring.

To assess students historical thinking skills, students completed a three-step task around the Muisca and Nariño Civilizations. In the first step, children:

- Formulated questions about a Pre-Hispanic vessel (formulation of questions)
- Described what they could learn about the Muisca and Nariño Civilizations by studying their vessels (inferring).

The Muisca people inhabited the territory of the Nariño Civilizations, up to 40 meters. They worked the gold with techniques similar to those of southwestern Colombia, such as hammering. The Nariño people felt the influence of the Incas. They still inhabited their territory at the time the Spaniards arrived.
Explained who in the Muisca and Nariño Civilization used the vessels and their purpose (explanations).

In the second step, children:
- Wrote narratives based on the observation of Muisca and Nariño Civilization images (narrative construction).

In the third step, children:
- Identified changes and continuity in the physical characteristics of Pre-Hispanic, Conquest, Colony, and Independence vessels (identification).
- Inferred the meaning of the observed changes and continuities (inferring).

Data Analysis

Quantitative Analysis

The students of one of the schools (Kennedy) participated in a pedagogical intervention where they experimented with didactic material that included original and replicas of Pre-Hispanic pieces, while the students from the other school (Soacha) did not participate in any intervention.

The information obtained from the students’ responses to each question were organized in a matrix (see appendix 2). The matrix was designed to focus on extracting evidence from the learning process and possible difficulties. In addition to the above-mentioned evidence, other aspects such as background knowledge, context, and knowledge from other subject areas, were analyzed in the matrix. The level of complexity in the students’ responses were coded by assigning levels of performance from 0 to 3 (less to more complex performance) to the qualitative criteria from in the evaluation matrix. The qualitative interpretation was based on research related to the development of narrative skills in historical education (Barca and Schmidt, 2013; Barton, 1996, Carretero and Van Alphen, 2014; Barca, 2005; 2010; Sáiz & López - Facal, 2014 Rüsen, 2006).
<table>
<thead>
<tr>
<th>Historical Knowledge exercise</th>
<th>Skills</th>
<th>LEVEL 0</th>
<th>LEVEL 1</th>
<th>LEVEL 2</th>
<th>LEVEL 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working with historical sources</td>
<td>Formulation of Questions</td>
<td><em>Level 0</em>: The children did not understand the instructions. There are no inferences.</td>
<td><em>Level 1</em>: The questions have an obvious answer that can be found by observing the image. (For example: Why is the jar red?)</td>
<td><em>Level 2</em>: The questions are related with what is being performed, with its creation, and its purpose (materials, technique, and decoration).</td>
<td><em>Level 3</em>: The questions indicate a connection with previous knowledge.</td>
</tr>
<tr>
<td>Making Inferences</td>
<td><em>Level 0</em>: The children did not understand the instructions. They did not answer the question.</td>
<td><em>Level 1</em>: The children discover things that are not precisely of the Muiscas but of the creation of vessels in general.</td>
<td><em>Level 2</em>: The children discover things pertaining to the Muiscas that are directly related with the technique used in the creation of the vessels.</td>
<td><em>Level 3</em>: The children discover things about the Muiscas related with what the vessels represent, the purpose they served, the technique used in their creation, and the importance of this craft in the Muisca society.</td>
<td></td>
</tr>
<tr>
<td>Construction of explanations.</td>
<td><em>Level 0</em>: The children did not understand the instructions. They did not answer the question.</td>
<td><em>Level 1</em>: The story has errors in information. It is not necessarily about the Muiscas.</td>
<td><em>Level 2</em>: The stories have obvious informative data (e.g., The jug was used by the Muiscas).</td>
<td><em>Level 3</em>: The stories have informative data that integrate historical information with a comprehensive process.</td>
<td></td>
</tr>
<tr>
<td>Historical Narratives</td>
<td>Interpretation of the source.</td>
<td><em>Level 0</em>: The children did not understand the instructions.</td>
<td><em>Level 1</em>: The children tell episodes of a story based on the images; these are not necessarily episodes about the life of the Muiscas.</td>
<td><em>Level 2</em>: The children tell episodes of the Muisca history, relating images with certain expressions.</td>
<td><em>Level 3</em>: The children tell episodes from Muisca history connecting the images with the knowledge learned in class. Hereby, they identify the characters in the images and narrate their activities.</td>
</tr>
<tr>
<td>Construction of narratives.</td>
<td><em>Level 0</em>: The children did not understand the instructions.</td>
<td><em>Level 1</em>: The children tell episodes of a story based on the images; these are not necessarily</td>
<td><em>Level 2</em>: The children tell episodes of the Muisca history, relating images with certain expressions.</td>
<td><em>Level 3</em>: The children tell episodes from Muisca history connecting the images with the knowledge</td>
<td></td>
</tr>
</tbody>
</table>
Change and Continuity in History

<table>
<thead>
<tr>
<th>Skill</th>
<th>Level 0</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of change and continuity</td>
<td>The children did not understand the instructions. They did not answer the question.</td>
<td>There is no awareness of the existence of different stages of history; there is only a narrative of physical differences of the vessels.</td>
<td>There is awareness of the existence of different stages of the past (history). The children can differentiate between time periods.</td>
<td>The children can recognize differences and similarities between different time periods.</td>
</tr>
<tr>
<td>Construction of inferences based on the</td>
<td>The children did not understand the instructions.</td>
<td>The children discover differences and similarities and between the vessels; there is no connection with a change of time periods.</td>
<td>The children discover differences between the different vessels and relate them with a change of time periods.</td>
<td>The children discover things from post pre-Hispanic times based on the differences with the Muisca vessels or with other vessels.</td>
</tr>
<tr>
<td>identified changes and continuities.</td>
<td></td>
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</table>

Table 2. Matrix for the quantitative evaluation of the historical thought levels for each student.

Student responses were rated from 0 to 3, by three qualified researchers (two of the raters are history teachers, while the third one is a qualitative researcher with experience in education settings). The inter-class coefficient (ICC) was used to determined inter-rater reliability which was 0.951 (CI 0.924 - 0.968).

To establish whether a pedagogical intervention promoted the development of historical thinking skills in the Intervention group, compared to the Control group, the mean number of responses in each level of performance by skill were compared between the two student groups using One-way ANOVA analyses.

Results

The quantitative analysis of students’ responses suggests that the intervention group (IG) obtained higher scores than the control group (CG) in most of the evaluated skills.

Use of Historic Sources.

Regarding the Use of Historic Sources factor, the mean number of responses did not differ between the groups in the formulation of questions figure 1 IG (M = 2.193, SD = 0.659); CG (M = 2.074, SD = 0.729); F (2, 35) = 0.311, p = 0.735. (See figure 2). However, there were statistically significant differences between groups in making inferences F (2, 35) = 8.164, p = 0.001; and explanations F (3, 35) = 12.836, p < 0.001. Post hoc comparisons using the Tukey
HSD test indicated that the mean number of responses in making inferences, were significantly higher in the IG ($M = 2.520, SD = 0.580$) compared to the CG ($M = 1.480, SD = 0.643$); $t (52) = 6.225, p < 0.001$. Along the same lines, the mean number of responses in explanations, were significantly higher in the IG ($M = 2.774, SD = 0.420$) compared to the CG ($M = 1.444 SD = 0.751$); $t (52) = 8.034, p < 0.001$.

When evaluating Historical Sources, the greatest differences between the two groups, can be found in the construction of inferences and in the structure of explanations given by the students. Regarding the ability to formulate questions, the differences between the two groups are not evident. The questions, explanations and inferences in the IG differ from the CG in extension, contents, and structure. The answers are associated with the physical characteristics of the source (an indigenous vessel), the use given by the Muiscas to these vessels, and the symbolic and religious value of their decorative elements in the vessels such as the face of a man, a snake, and a jaguar to represent special aspects of the culture. Students in the IG group asked more complex questions such as “Why does the vessel represent a man and not a woman?”

The absence of the intervention work with the CG becomes evident, mainly regarding the students’ lack of knowledge of different aspects of the Muisca way of life and in the structure of their explanations and inferences. Since this group of children has incorporated significantly less distinctive aspects of the Muisca way of life, their explanations, and questions center only on the physical qualities of the vessel, and their inferences on how they imagine it was made. In some explanations and inferences, the children do not relate directly with what can be learned from the vessels but with what can be learned from the Muiscas. This could point to a problem in reading comprehension. Therefore, the questions posed to this group of children focus mainly on aspects that can be observed in the vessels, for example: What is drawn in the vessel?

What has been stated above does not mean that the positive results obtained by the intervention group were merely influenced by the familiarity with the context and the knowledge about the Muiscas and the Nariño. On the contrary, the data shows that those results are directly related with the orientation of the abilities to learn about history, such as the construction of explanations about a historical fact. The previous argument is reinforced by the fact that in abilities that were constantly practiced in other classes, like formulation of questions or the construction of narratives, there are no differences between the intervention group and the control group.

Historical Narratives

In the Narratives factor, the mean number of responses did not differ between the groups in the construction of narratives $F (2, 45) = 1.256, p = 0.295$. (See figure 4). However, there were statistically significant differences between the groups in interpreting the narratives $F (2, 45) = 47.276, p < 0.001$. Post hoc comparisons using the Tukey HSD test indicated that the mean number of responses in interpreting the narratives, were significantly higher in the IG ($M = 2.806, SD = 0.470$) compared to the CG ($M = 1.074, SD = 0.474$); $t (52) = 12.758, p < 0.001$.

Regarding historical narratives, two skills were evaluated: the interpretation of useful information and its subsequent construction. In the first skill, differences were found between the two groups; however, in the second group, the children’s performance was very similar. When interpreting information, it was clear that the intervention with children of the first group favored the development of skills to interpret the contents of historical texts and to extract and process relevant information when constructing their narratives. The students in the first group...
understood the role played by social actors of the Muisca people as well as the role’s contribution to the community. Their interpretations included arguments in which they developed complete ideas with extensive information about sacred animals, the importance of corn, the process of hunting, and their relationship with nature. Interpretations by the second group of children were shorter and rarely involved specific knowledge about the Muisca world. Mostly, they generalized about what they already knew and had learned about indigenous people in school and the outside world.

Regarding the writing of the narrative, there were no major differences between the two groups. This may be because although the second group did not participate in the intervention focused on the development of historical thought from the Muisca point of view, the children had educational experiences that favored their writing skills. Both groups wrote narratives in first and third person, involving indigenous characters with other characters from their school and family contexts. The narratives of children who did not participate in the intervention included stories of how indigenous people live nowadays. On the other hand, the IG children, delved in the Muiscas’ way of life, their cosmovision, their beliefs, and the way they established relationships with one another and the nature. In this group’s narratives, students drew attention to the role played by current indigenous groups in the conservation of nature and emphasized a desirability to learn from them. Difficulty to present the narrative coherently as well as some grammar and writing mistakes were identified in some children from both groups.

**Changes and Continuity**

The mean number of responses did not differ between the groups in identifying Changes and Continuities IG ($M = 2.0, SD = 0.672$); CG ($M = 1.370, SD = 0.494$); $F (2, 48) = 0.126, p = 0.882$. However, there were statistically significant differences between groups in making inferences about Change and Continuity $F (3, 48) = 4.579, p = 0.007$. Post hoc comparisons using the Tukey HSD test indicated that the mean number of responses in making inferences about Change and Continuity, were significantly higher in the IG ($M = 1.667, SD = 0.700$) compared to the CG ($M = 1.037, SD = 0.192$); $t (52) = 4.312, p < 0.001$.

The children who participated in the intervention showed extensive knowledge of the pre-Hispanic vessel as well as skills for the identification of physical similarities and differences between the vessels (for example, shape, color, decoration, material from which the vessel was made, etc.). Their inferences also contained information about the pre-Hispanic vessel and the changes and continuities when compared to vessels of different periods. This indicates that the students have used, and applied knowledge learned in the context topics context of the pedagogical intervention. Also, they have focused on the functions that the vessels fulfill and how they are preserved or modified.

The answers given by the CG’s students are very basic and do not report any identification of change other than that which can be deduced from the questions posed in the exercise itself. They demonstrated little knowledge of the vessels in Colonial times as during the Independence; therefore, they are scarcely mentioned in their analyses. Most of the children are unable to discover features from post pre-Hispanic times based on the differences with the Muisca vessels or among the vessels themselves. The relationships between the differences and similarities over various periods of time, are limited to mentioning that they belong to some other time with no further justification. This implies a lack of a more profound or complex reasoning of the response.
Discussion and Conclusion

This research exercise allowed us to recognize the importance of working with sources in the development of historical thinking skills such as the construction of inferences and the understanding of concepts already proposed by Blyth (1994); Cooper (1995, 1998, 2002, 2004, 2006); Hawkes (1996); and Nulty (1998). In the framework of this intervention, working directly with sources such as a field trip to the museum and the manipulation, observation, and description of pre-Hispanic objects, allowed the students to understand and process information about the tangible and visible world. This information was then used by the children to perform new tasks such as resolution of problems, creation of a reasoned story, and formulation of logical arguments. Actions such as creating replicas of pre-Hispanic figures and writing narratives, among others, helped students develop their deductive reasoning.

The results indicate that formulating questions is one of the skills in which there are no differences between the two groups of children; most of the participating students were located between level 2 and 3. It should be noted that this skill was included in the framework of the pedagogical proposal and its evaluation, due to the fact that the World Bank Report (2018) on education and learning internationally indicates that one of the skills to develop in students is the formulation of interesting and relevant questions. Our interest in including the ability to formulate questions coincides with bets such as that made by Harnett (1993), who discovered that young children who used visual sources tend to observe images in detail, telling everything they could see in them, afterwards they focus on general impressions.

Hennett (1993 and 1996) emphasizes that teachers can help children to ask questions and stimulate them to interact with each other by socializing their answers with the class, to broaden their thinking. In the framework of the proposal developed, the children described the pre-Hispanic pieces and comment on their descriptions. Later, they were encouraged to ask open questions: "What questions can you ask about vessels, fabrics, and objects to discover more about the way of life of the Muiscas?" The children were also invited to construct the significant details of images and pieces of the Muiscas and were asked to select different characteristics and to talk or write about them. The importance given to learning how to formulate open questions is since, as stated by Pianta, La Paro and Hamre (2012), these questions help to achieve a deeper understanding of the concepts and develop reasoning and reflection skills.

On the other hand, the inclusion of knowledge from other subjects such as mathematics, natural sciences, Spanish language, popular culture, as well as information from the TV or the internet network by students of both groups, indicate, as Barton and Levstik (1966), Hodkinson (2004), and Vella (2011) have suggested, that family, sociocultural factors, and life outside school contribute to the formation of historical thought. In this regard, the design and implementation of a pedagogical intervention on a pre-Hispanic indigenous culture favors the processes of construction of individual and collective identities. The experience of this investigation indicates that, in addition to producing enjoyment and interest in history, knowledge of lifestyles of indigenous groups and peoples who lived in past times and of sources of heritage, provides challenging evidence that helps students acquire a sense of the past (Barca et al., 2006; Cooper, 2013; Levstik et al., 2005; Pinto, 2013).

The construction of narratives was another skill in which there are no differences between the two groups of children, in this skill most of them were located at level 2 and 3. We were very interested in including this skill in the pedagogical proposal. It was carried out with the children,
because it seemed pertinent to start working on it from primary education, because in the
learning related to it, in the university entrance test, Colombian students obtain less than 50% of
the correct answers, these skills are (i) "understanding spatial and temporal dimensions of events,
problems and social practices 48%" and (ii) "understands perspectives of different actors and
social groups. 49%" (ICFES, 2020).

We consider that the stimulation of the construction of narratives from elementary school
contributes to the performance of complex actions that articulate various thought processes, and,
in the long term, help develop the skills that students are expected to achieve by the end of
secondary school. This lack of differences in the results of the ability to construct narratives can
be explained. It is a very generalized practice in Colombian schools from pre-school education,
to write and narrate stories about people and events of daily life. What interested us in this
research is that students developed skills to build narratives about the way of life of people in the
past. In this order of ideas, our claims are aligned with those of works such as Cooper’s (2000),
who concluded that the construction of narratives in primary school is essential to prepare
children to understand the causes and effects of change in time; as well as the understanding of
the reasons why, often, there is more than one explanation to historical events.

Consequently, the importance given to the narratives coincides with the work of Costello
(2000), who demonstrated that the concepts of time and other aspects of historical thought can be
learned through narratives. Storytelling is a traditional way of introducing children to other times
and places, of exploring other people's minds. Likewise, the narratives activate the imagination
and emotions and help children to reflect on their own experiences and on the way, they see
others. The narrative underlies both the tale and the story. It holds children's attention and
provides a framework for asking who? and because? (Costello, 2000). The knowledge acquired
and the difficulties encountered by students in the construction of narratives both in the
Intervention as in the Control Groups indicate that, in addition to classifying or distinguishing
the elements of reality, this task favored the creation of outlines of scenes, events and stories
during life. These interwoven events, that give meaning to the experience, constitute what we
call our history, our past, present, and future (Chacón, 2015; Osborne, 2003; Prats et al., 2011;
Pozo, 1985; Stearns, 2011; Torres, 2001a, 2001b). The fact that both groups’ performance in the
construction of the narratives is very similar, can be partly because the CG teacher is trained in
Spanish and the group has participated in pedagogical interventions focused on improving
reading and writing communications skills.

This allows us to suggest that narrative thinking relies on the designs of outlines, scenes,
events, and stories. Its richness or precariousness depends on the children’s learning
opportunities to being exposed to different and multiple representations that favor a conceptual
structure (Chacón, 2015). Thus, according to Pagès and Santisteiban (1999), the narrative
becomes an important instrument in the construction of temporality. These authors believe that in
addition to a certain narrative language associated with time, it is essential that the conceptual
knowledge of historic periods become one of the most important aspects of learning history in
elementary schools.

The last skill in which there are no differences between the two groups of children is
identifying changes and continuities. As expressed in the data, although there are no children
from either of the two groups at level 0, most of them are located between levels 1 and 2. These
data show that it is necessary to work on the skill of identification of change and continuity with
primary school students. This necessity was also evident in a review of the performance
indicators of historical thinking that Colombian students should achieve made by Palacios (2021,
in press). The review indicated that for secondary education there are 30 performance indicators to work on the ability to change and continuity in history, meanwhile for primary education there are only 6. To cite an example, one of the performances’ indicators proposed for primary education related to the ability of identifying changes and continuities evaluates children abilities to identify differences between themselves and the organizations that exist in the places where they live.

Additionally, Domínguez, (2015) emphasizes that it is not frequent that part of the class’ curriculum includes processes of change and continuity, since, generally, this topic is limited to chronological history. Faced with this situation, for Domínguez (2015) developing skills to identify changes and continuities in history classes, makes it possible to look at the past, not only to understand and explain what happened, how the present situation has been reached, but to reflect on how these changes have been (their speed, rhythm, or direction), and to evaluate their meaning and relevance for us. It is important to mention that since this is not a pre/post-test study, there is not a baseline comparison between the groups; therefore, one cannot argue that the results are solely due to the intervention, other factors affecting the way students responded should be considered.

First, the social contexts of the students. Despite both student groups belonging to similar socio-economic stratum, each group live in a different town with different contexts that provide them with qualitative diverse cultural experiences. Parents’ involvement and participation in the school life is important. While teachers from the Intervention group have reported that parents show interest in helping with homework, attending meetings, workshops, teachers from the Control Group have expressed their frustration because parents seem to be detached from the process.

Second, the schools. The Intervention group belongs to a school that has been implementing innovation practices; some teachers have had opportunities for professional development through workshops and postgraduate studies. The Control Group belongs to a school that has invested its resources in fostering Spanish language skills in primary school students. Interestingly, when comparing both groups in their abilities to construct narratives, there are not significant differences. This finding could be explained by the Control Group being in an environment that promotes those skills.

This study focused on how a pedagogical intervention, guided by a trained teacher, fostered the development of historical thinking skills in two groups of primary school children in Colombia. The Intervention group received a pedagogical intervention by a teacher who had been trained in history teaching. Children in the Control Group did not receive a pedagogical intervention at all.

This way, the differences in levels of development of historical thinking skills between the Intervention Group and the Control Group may suggest that having been guided by a teacher trained in social sciences, with extensive theoretical and methodological knowledge of this discipline influenced the responses observed in the Intervention Group. This leads us to reflect on the formation of teachers.

At the end of the intervention, both groups were tested on several skills. Findings suggested that the pedagogical intervention benefitted the development of historical thinking skills in the Intervention group. However, other factors such as social contexts, schools, in addition to teachers’ professional development, may have influenced groups’ responses. It is necessary to study these factors to better understand the process of development of historical thinking skills in primary school children.
The results of the Intervention Group’s students also indicate that the suggested learning activities motivated them. Consequently, when they feel invited to work with relevant topics that may relate with their experiences, they advance to a higher cognitive level. The outcomes of this work are in accordance with those of Cooper (2006, 2014a, 2014b), Donaldson (1978), and Hodkinson (2004), who have stressed that motivation is important in the learning of history. These authors state that when children enjoy the class, there is a positive development of historical thinking. Consequently, we consider that this article leaves an open work hypothesis to be deepened in another work, namely: which are the factors that motivate elementary school children regarding the learning of history?

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