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# Identifying instructional mediation patterns related with progress made in reading comprehension in socio-cultural disadvantaged contexts

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**Título:** Identificación de patrones instruccionales de mediación relacionados con progresos en comprensión lectora en contextos de desventaja sociocultural.
**Resumen:** Identificar factores instruccionales específicos relacionados con progresos en comprensión lectora es esencial para optimizar el aprendizaje y orientar la intervención, especialmente en contextos de desventaja sociocultural o dificultades de aprendizaje. Este estudio pretende identificar patrones instruccionales de mediación eficaces en la explicación del progreso en comprensión. Se grabaron, transcribieron y analizaron sistemáticamente 82 sesiones-clase, y se registraron pautas de mediación relativas a diferentes procesos lectores. Los patrones de mediación fueron analizados mediante codificación y categorización del contenido con el programa Maxqdea-7. Fueron consideradas 19 categorías, que aglutinaron 178 unidades de información significativas (pautas/conductas de mediación). La muestra estuvo compuesta por 21 docentes y 821 estudiantes de tercero a octavo grado de Educación Básica de escuelas públicas de Chile ubicadas en contextos deprivados socialmente. El progreso lector se midió con la prueba estandarizada CL-PT, aplicada al principio y al final del curso escolar. Los resultados permitieron identificar pautas específicas de mediación significativas en la explicación del progreso, especialmente el patrón M_17 (*Mediación del uso de estrategias para la activación e integración de conocimientos previos*) explicaba el 26% de la varianza ($r$ = .55, $p$ < .01; $R^{2ajustado}$ = .26, $F_{(1, 19)}$ = 8.19, $p$ = .01). Se discuten las implicaciones educativas de estos resultados.
**Palabras clave:** patrones de mediación; pautas docentes; rendimiento lector; comprensión lectora; desventaja sociocultural.

**Abstract:** Identifying specific instructional factors related to advances made in reading comprehension is essential for optimizing learning and for guiding interventions, especially in socio-cultural disadvantaged contexts or with learning difficulties. This study intends to identify efficient instructional mediation patterns to explain progress made in comprehension. Eighty-two sessions-classes were systematically recorded, transcribed and analyzed, and the mediation patterns related to different reading processes were recorded. Mediation patterns were analyzed by coding and classifying contents with the Maxqdea-7 program. Nineteen categories were considered, which included 178 significant information units (mediation patterns/conducts). The sample was made up of 21 teachers and 821 students of years 3 to 8 of Basic Education in public Chilean schools from socially deprived contexts. Reading progress was measured by the standard CL-PT test, which was applied at the beginning and end of the academic year. The results identified specific significant mediation patterns of progress, especially pattern M_17 (*Mediation of using strategies for activating previous knowledge, and for integrating knowledge and experiences with new contents*) which explained 26% of variance ($r$ = .55, $p$ < .01; adjusted $R^2$ = .26, $F_{(1, 19)}$ = 8.19, $p$ = .01). The educational implications of these results are discussed.
**Keywords:** mediation patterns; teaching patterns; reading performance; reading comprehension; socio-cultural disadvantage.

## Introduction

The socio-economic stratification phenomenon and its relation with progress and academic performance constitute a reality that is not easy to avoid in many countries and thats, in turn, a constant concern for educators and public management. This reality was studied in Chile in relation to not only implementing public compensatory policies, such as Program P-900 or Law SEP (the Preferential School Subsidy Law, 2008), but also to revealing the differential incidence of the various factors explaining it (Cadiz & Martinic, 2007). The results of national and international educational diagnosis tests, such as those offered by the Quality Measuring System in Education (SIMCE), and those obtained with international PIRLS (Progress in International Reading Literacy Study) and PISA (Program for International Student Assessment) programs, indicate a close connection between a family's socio-economic level and academic performance. The SIMCE results of Chilean students in reading comprehension showed that the gap in performance between high and low socio-economic groups widened for 2014-2015 (Agencia de Calidad de la Educación, 2016a). This suggests that progress was lacking, or could even imply worse means obtained by medium-low and low socio-economic groups, respectively, with significantly lower marks than other social groups. The PIRLS and PISA results evidenced significant mean differences (95 and 96 points, respectively) for students with plenty of and few resources, respectively (Agencia de Calidad de la Educación, 2016b). The latest available results for both PIRLS and PISA reveal that, despite the progress made, reading comprehension marks were significantly lower than the international mean, with the assessed students obtaining low or very low reading comprehension (between 28.4% and 39%).

This research also revealed that, internationally, those students in socio-cultural and economic disadvantaged situations usually obtained worse reading comprehension results than those from high socio-economic sectors (García-Crespo, Galián, Fernández-Alonso, & Muñiz, 2019). The structural-type conditions that characterize being socially-culturally deprived trigger a series of factors that could explain these students' worse academic performance more clearly. Some factors are highlighted: (a) shorter and poorer

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exposure to learning stimuli and experiences relating to the written culture (Urquijo, García-Coni, & Fernandes, 2015); (b) poor use of language that barely contains complex forms and structures, and more specific knowledge lacking compared to classmates (Fernald, Marchman, & Weisleder, 2013; Kieffer, 2012); (c) problems to be selectively dealt with, which makes filtering relevant information difficult, and negatively affects the latent inhibition process (Schibli, Wong, Hedayati, & D'Angiulli, 2017); (d) difficulties of an emotional and behavioral kind, regardless of them being internalizing; e.g. anxiety, poor expectations or non-fitting patterns attributable to success or failure; or externalizing; e.g. disruption, hyperactivity or aggressiveness (Flouri, Midouhas, Joshi, & Sullivan, 2016; Schibli et al., 2017).

Some studies have indicated the very high incidence that some variables relating to school organization or participation dynamics may have, as well as others relating to the teaching-learning processes, such as classroom climate and management, the structure that the different participating stakeholders, or mediation processes that teachers set up to promote learning (Boardman, Boelé, & Klingner, 2018; Flecha, Garcia, Gomez, & Latorre, 2009; García-Crespo et al., 2019; Hou, 2018; Navarro & Mora, 2013; Resing, 2013; Valls, Soler, & Flecha, 2008). In light of the data offered by the PIRLS programme, García-Crespo et al. (2019) carried out a study to analyze various factors that could affect students' capacity to obtain good results on the PIRLS 2016 test's reading comprehension scale in socio-economic and cultural disadvantage contexts. The analysed data ($N$=117,539 students from 23 EU countries) were taken by assuming differences among countries, and factors related to school and academic background appeared, such as the centre's discipline (8 countries), having done early reading comprehension tasks (11 countries) or academic emphasis placed at schools (4 countries), which all significantly increased the likelihood of students with low socio-economic and cultural levels (last quartile) obtaining high test results (first quartile). So although no-one questions the relevance of structural variables in academic outcomes, certain key factors associated with success and efficient academic performance could be related with implementing and well establishing educational practices that involve effective transformation at school and in class (Valls et al., 2008). Thus it is assumed that schools can promote changes and improve academic performance, even in social disadvantaged sectors (Flecha et al., 2009; García-Crespo et al., 2019; Muijs, 2003).

All this would be reinforced by an ecological-systemic perspective which considers that factors of change have no linear influence, but would have an interactive and contextualized effect. Therefore, action and changes promoted in some system components may affect the rest via a continuous interaction among these components in a given context (Bronfenbrenner, 1987). Thus the teaching actions under study are understood as yet another component of the *school* system in which introducing changes as a result of identifying key efficient mediation patterns possible to explain students' significant improvements (Rueda, 2013). So from this perspective, identifying teaching mediation patterns is possible in specific activities like reading, which can mediate and promote changes and significant improvements in students (Navarro, Mora, Lama, & Molina, 2014). Within this framework, the present study aims to identify and analyze these teaching patterns that would act as decisive factors in improvements made even in socio-cultural disadvantaged contexts (Bellei, Valenzuela, Vanni, & Contreras, 2014).

### Mediation and instructional patterns

Research in the language area in basic education considers that shared traits exist in the instructional actions taught by teachers (Preiss, 2009). The cited author analyzed the mediation process using the *Instructional Patterns* concept, understood as the most widely used mediation patterns by teachers in a given educational and cultural context. These instructional patterns would act as references to guide teaching work and, in turn, would condition pedagogic innovation possibilities. Regarding the drawn conclusions, the found instructional patterns were characterized by pedagogic interactions predominating, where the teaching role was centered on external control and on following up students' information acquisition. Thus the opportunities offered by teachers to develop self-regulation or metacognitive processes were extremely scarce (Preiss, 2009; Preiss et al., 2014). Nonetheless, several studies have evidenced the relevance of control and self-regulation processes in reading comprehension (Navarro et al., 2014; Souvignier & Mokhlesgerami, 2006; Thiede, Griffin, Wiley, & Redford, 2009). Most of these studies emphasize mediating metacognitive skills in intervention processes, particularly cognitive self-regulation skills, but also point out the relevance of integrating socio-affective and motivational aspects by relating the found improvements with increasing competences related precisely to these skills.

In line with the ideas they set out, other studies have evidenced significant improvements in students with learning difficulties, disabilities or who are at socio-cultural disadvantage after they participated in instructional studies, cognitive enrichment programs and dynamic evaluation procedures characterized by use of different forms of mediation (Aguilera & Mora, 2004; Beckmann, Beckmann, & Elliott, 2009; Carlson & Wiedl, 2000; Navarro et al., 2014; Resing, Tunteler, de Jong, & Bosma, 2009; Resing & Elliott, 2011). For evaluation purposes, most of these procedures have been developed in relation to the specific work done with these subjects, and more importance seems to be attached to their application precisely in these cases. So these procedures have attempted to provide further information to that acquired from conventional evaluation tests (Sternberg & Grigorenko, 2002). This further information has at times been specified when analyzing the learning process and the difficulties encountered by students while learning, and also when

analyzing the characteristic *mediation* or *mediated interaction* process of these models. All in all, studying the *mechanisms* which explain the improvements that can be observed while applying dynamic evaluation procedures, by means of which students would optimize their learning, which can be significant to guide the intervention and also teacher training processes (Aguilera & Mora, 2004; Grigorenko, 2009; Roskos, Moe, & Rosemary, 2017). In this way, the *applier* of such procedures, by putting mediated interaction patterns into practice, would offer control and regulation tools for the activity in order to observe and evaluate the degree to which these tools are incorporated by students while they solve a task. With these patterns, mediation between students' current competences and those they require to successfully perform a proposed task comes into play in an attempt to acquire valuable information that guides the intervention. Thus the analysis processes in the contextualized application of some of these procedures have helped to obtain a series of interaction patterns that appliers have put into practice during sessions which will have been essential for obtaining the observed improvements. In some cases, the training processes required to set up these procedures have included specific training in using these interaction patterns (Aguilera & Mora, 2004; Navarro et al., 2014; van Driel, Slot, & Bakker, 2018).

Accordingly, analyzing the teaching-learning process and the characterization of the mediation patterns employed by teachers in the present study, which would have been key for obtaining the observed improvements, could provide further qualitative information about both the intervention with students and improvements to the teacher training process. Collecting these successful experiences of making progress in socio-cultural disadvantaged contexts by analyzing teaching practice would allow possible efficient mediation patterns to be identified. As we see it, identifying these mediation patterns implies focusing on efficient action processes; and analyzing what teachers do in class to promote students' comprehension involves starting by analyzing real education to be able to establish gradual continuous training processes with more guarantees of success (Sánchez, 2010). In this way, the provided information would allow initial training processes to be guided and, above all, professional teaching development in relation to the teaching-learning of reading in basic education in contexts of special difficulty.

### Objectives and work hypotheses

The present study aims to identify the teaching mediation patterns to be used in specific reading activities that would act as key factors in the progress made by students in a socio-cultural disadvantaged situation. It intends to identify those mediation patterns employed by teachers during the analyzed sessions that would be statistically and significantly related to the progress made in students' reading comprehension as measured by the difference between initial and final evaluations. As a work hypothesis, we expect the marks obtained by those students who make more progress in reading to be significantly related to a more widespread use of metacognitive and self-regulatory mediation patterns, and to those that address personal-social adaptation processes.

## Method

### Research design and procedure

The research design is not experimental, but adopts an associative research strategy. It is a predictive cross-sectional study (Ato, López, & Benavente, 2013), in which the participants were selected intentionally according to the characteristics of the education centers where they worked (a situation of social vulnerability). It essentially analyzes the relation between the teaching mediation patterns employed during reading activities in different groups-classes and the observed reading progress. For this purpose, a study was conducted in three phases during one academic year: (a) an initial evaluation; (b) observation, audiovisual recordings and identifying mediation conducts; (c) a final evaluation. Six months separated the initial and final reading performance evaluations. In this observation phase, the teaching mediation patterns related to the various processes involved in reading were systematically recorded. The analysis of the acquired information was carried out with the different groups-classes considered to analyze the mediation patterns in line with the various degrees of change made between the initial and final marks (Aguilera & Mora, 2004). By taking these groups-classes as research subjects, we put forward an overall hypothesis: the quality of the mediation patterns employed by each teacher would help to well explain differences in outcomes. We expected the marks of the students who made more reading progress to be significantly related to setting up regulatory and metacognitive mediations, and also to those of a more *enthusiastic* type that addressed personal-social adaptation processes. To verify this hypothesis, we used observation instruments, and we analyzed both the activity and discourse that took place in class with video recordings of different work sessions.

Several informative meetings were held with teachers and families to explain the essential study objectives. Informed consent was requested. Information was obtained about the education centers in relation to the socio-economic level.

### Participants

The sample was made up of 21 groups-classes and 821 students (45.5% girls, 54.5% boys; *M* age = 10.37, *SD* = 2.06) of years 3 to 8 of Basic Education from six public schools in Santiago de Chile from high social vulnerability contexts according to the index of the National Board of School Aid and Grants (JUNAEB, 2012) and to SIMCE 2012-2016 (Quality Measuring System in Education, 2016a). The teachers (12 women and 9 men) specialized in the area

of Language and History, and most had sufficient experience as the youngest teachers had at least 4 years experience.

### Instruments

*Reading and Comprehension.* The CL-PT Reading Comprehension and Production of Texts test was used (Medina, Gajardo, & Fundación Arauco, 2010). The CL-PT test has been validated in Chile, as has its generalized use in the school context. This test contains, in turn, specific tests for each school year. It evaluates these traits: comprehension of textual structures, literal comprehension, inferential comprehension, critical comprehension, metacognitive comprehension, reorganizing information and code handling. The test is made up of between 15 and 16 items according to the academic year being evaluated, and the aforementioned traits are distributed among them. In turn, the CL-PT test sets five performance levels according to the obtained mark and the percentage of overall achievement: (1) Not making any progress; (2) Emerging; (3) Making progress; (4) Making satisfactory progress; (5) Making considerable progress.

*Instruments for the observation phase.* The qualitative analysis Maxqdea-7 program was used. On average, four class sessions held by each participating teacher were audiovisually recorded. In all, 82 sessions were analyzed, which lasted 70.23 (*SD* = 13.68) minutes on average and 98.5 recorded hours were analyzed. These sessions were then transcribed and analyzed by the aforementioned program (Fig. 1) to facilitate coding and classifying significant pieces of information, and to identify mediation patterns in relation to the different processes involved in reading.

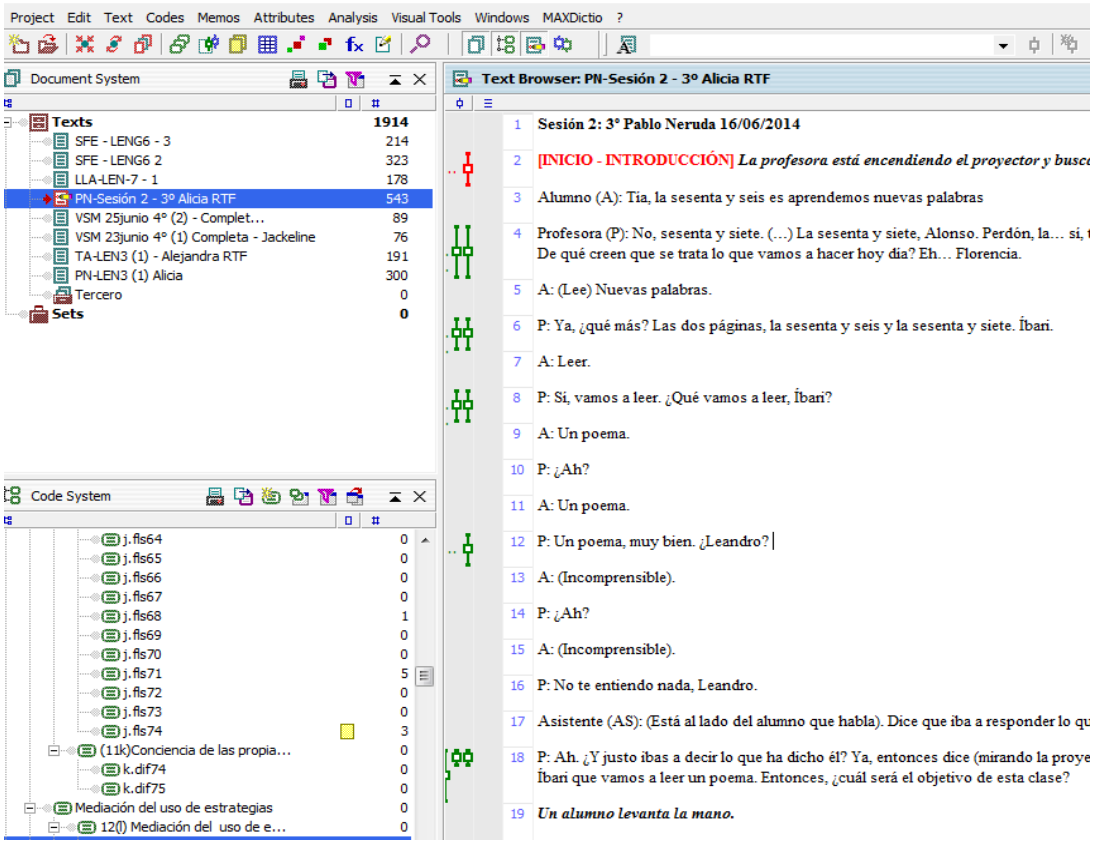


**Figure 1.** Identification of mediation patterns by the Maxqdea program.

The employed categories system was built as three blocks or dimensions: (a) mediation of general aspects; (b) mediation of metacognitive knowledge and use of strategies; (c) mediation of personal-social adaptation (Table 1). Initially, 19 categories were considered, which included 178 significant information units (mediation patterns/conducts). The processes involved in reading and the mediation patterns herein employed were developed in a former research work (Navarro & Mora, 2011; 2013; Navarro et al., 2014), which analyzed the implementation of a dynamic evaluation device for reading processes (EDPL). The considered processes agreed with most of those cited in the literature (Beker, Jolles, Lorch, & van den Broek, 2016; Compton et al., 2010; Graesser, Singer, & Trabasso, 1994; Hacker, 1998; León, Escudero, & Olmos, 2012; Rueda, 2013; Sánchez, 2010). The mediation process proposed in the EDPL device included a series of (non standard) patterns, such as a metacognitive guide, and graduated suggestions or feedback, which

were specifically associated with each task. The evaluators had to apply these patterns to evaluate the application process, as well as the type and degree of support that the students required to solve tasks. They were used to also observe and evaluate the extent to which the students included some strategies used in the mediation process. Hence the basic analysis unit was the *mediation* activity (supports) undertaken by the teacher.

**Table 1.** The initially used categories system to identify mediation patterns.

| |
|---|
| ***Mediating general aspects*** |
| 1 (a) Looking in-depth at the response or its justification by asking new questions or questioning responses |
| 2 (b) Extending the activity by students or the teacher/evaluator performing related tasks |
| 3 (c) Establishing support in sequencing, comprehension or performing the activity |
| 4 (d) Jointly recapitulating the work previously done with the objective to take it up again |
| 5 (e) Mediating the discussion and reflection on contents, elements, strategies and processes |
| 6 (f) Repeating an activity to put into practice the strategies worked on and to evaluate them being included in the activity by the students |
| ***Mediating metacognitive knowledge and use of strategies*** |
| 7 (g) Being aware of what is known about structural elements and typologies of texts |
| 8 (h) Being aware of comprehension strategies and when, how and why they are useful |
| 9 (i) Being aware of what is known about the content of worked texts or of a given activity |
| 10 (j) Being aware of the phonological, lexical and syntax structures of language |
| 11 (k) Being aware of typical reading difficulties |
| 12 (l) Mediating the use of planning strategies |
| 13 (m) Mediating the use of supervision strategies |
| 14 (n) Mediating the use of self-assessment strategies |
| 15 (ñ) Mediating the use of transfer strategies and generalization |
| 16 (o) Mediating the use of textual integration strategies |
| 17 (p) Mediating the use of strategies to activate prior knowledge and to integrate knowledge and experiences with new contents |
| ***Mediating personal-social adaptation processes*** |
| 18 (q) Mediating motivation, attitude and interest in relation to reading |
| 19 (r) Mediating participation and support among group members |

### Data analysis

Some of the analyses were carried out using the statistical program SPSS/PC (v. 21). Hierarchical multiple regression analyses were performed, in which the dependent variables were the students' improved reading marks, obtained from the difference between the initial and final marks in the standard test. The teaching mediation patterns put into practice by the teachers who participated in the study (typology and quantity) were taken as the independent variable. The initial reading marks were controlled.

## Results

### Distributing mediation patterns

The purpose of the first data analysis step was to establish the presence of mediation patterns during the observed sessions and to identify the frequency with which they appeared during these sessions. Table 2 presents the descriptive statistics in relation to the observations made in the 21 groups-classes. These observations were divided according to the educational cycle that the students belonged to (first cycle, years 1 to 4; second cycle, years 5 to 8). The *Frequency* column presents the quantification made in the sessions analysis by determining the number of times that the presence of the mediation patterns in the group was recorded. The last column presents the *Average frequency* of the coded mediation patterns, established according to observation times.

The analyzed sessions considered regular reading work activities, and excluded those sessions in which general evaluation tests were done. A minimum of two sessions was used as an inclusion criterion to avoid any isolated recording bias. The table shows a direct relation linking the number of sessions, the number of minutes and the frequency with which mediation patterns were observed; that is, the more sessions and minutes there were, the more frequent the observed patterns. To reduce this bias, the mean of the mediation patterns that would allow the weighted presence of the patterns to be evaluated was calculated.

With these data, the first aspect noted was the wide variation in the average frequency of the mediation patterns among the different groups-classes, which varied between a mean from 1.17 to 5.49. These means indicated the greater or lesser intensity of the teachers' use of mediation patterns and, therefore, more or less enriched mediation. The analysis of variance allowed us to confirm that groups differed in terms of the average frequency with which mediation patterns appeared ($F_{(20, 797)} = 6.73$; $p < .001$). For the analysis of differences according to educational cycles, the average frequency of the groups belonging to the first cycle, $M = 4.18$ (1.26), was significantly higher than that of the groups corresponding to the second cycle, $M = 3.01$ (0.89): $t_{(2, 19)} = 2.47$, $p < .05$, and equality of variances was assumed in the comparison. In other words, the teachers working in the groups of the first-cycle students used mediation patterns to a much greater extent than those working with the second-cycle students.

**Table 2.** Number and duration of all the sessions held with the different groups expressed in minutes, frequency with which mediation patterns appeared and their averages according to total minutes.

| Cycle | Group | Year | Sessions | Time | Frequency | Av. Frequency |
|---|---|---|---|---|---|---|
| First cycle | 1 | 3rd | 5 | 284.19 | 1560 | 5.49 |
| | 2 | 3rd | 4 | 303.58 | 1355 | 4.46 |
| | 3 | 3rd | 4 | 291.41 | 1248 | 4.28 |
| | 4 | 3rd | 5 | 294.54 | 1476 | 5.01 |
| | 5 | 3rd | 3 | 225.37 | 1074 | 4.77 |
| | 6 | 4th | 2 | 166.03 | 604 | 3.64 |
| | 7 | 4th | 2 | 165.86 | 785 | 4.73 |
| | 8 | 4th | 5 | 409.44 | 2147 | 5.24 |
| | 9 | 4th | 5 | 315.90 | 866 | 2.74 |
| | 10 | 4th | 4 | 313.13 | 448 | 1.43 |
| Second cycle | 11 | 5th | 4 | 322.16 | 1132 | 3.51 |
| | 12 | 5th | 4 | 253.69 | 994 | 3.92 |
| | 13 | 5th | 3 | 235.39 | 585 | 2.49 |
| | 14 | 6th | 5 | 354.10 | 662 | 1.87 |
| | 15 | 6th | 5 | 415.87 | 1331 | 3.20 |
| | 16 | 6th | 4 | 301.29 | 354 | 1.17 |
| | 17 | 7th | 4 | 319.57 | 894 | 2.80 |
| | 18 | 7th | 2 | 89.22 | 292 | 3.27 |
| | 19 | 8th | 3 | 199.88 | 595 | 2.98 |
| | 20 | 8th | 5 | 386.11 | 1491 | 3.86 |
| | 21 | 8th | 4 | 266.30 | 1080 | 4.06 |
| *Mean* | --- | --- | 3.90 | 281.57 | 998.71 | 3.57 |
| *SD* | --- | --- | 1.04 | 81.76 | 465.26 | 1.21 |

*Note*: *Av.* Frequency = average frequency of mediation patterns according to observation times.

## Observed results on the progress made in reading in different groups

As the main objective of this article was to analyze the possible relation between the progress made in reading and the employed mediation patterns, the start and end of the reading performance process were evaluated by the CL-PT test. Table 3 presents the mean marks obtained by each group in this test for the initial and final applications. To verify the differences between both measurements and to evaluate any statistically significant differences, the Student's *t*-test was used for the related samples. It included the number of students, their mean age and the average frequency of the employed mediation patterns.

The results showed the mean statistically significant gains in 15 groups; three other groups, 14, 16 and 19, improved their mean marks, but they were not significant. Groups 8, 9 and 17 made significant losses. In light of the observed results, the progress made in reading performance was compared per educational cycle. Significant differences were obtained in both cycles when each cycle was considered to be a single group.

**Table 3.** Comparison (post-test – pretest) between the initial and final marks in the CL-PT reading test.

| Cycle | Group | N | Age | Pre-CL-PT | Post-CL-PT | Improvement | *T* (*p*) | *Av.* Freq. |
|---|---|---|---|---|---|---|---|---|
| First cycle | 1 (3rd) | 26 | 8.27 (1.04) | 26.84 (15.30) | 42.48 (10.96) | 15.64 | 5.20*** | 5.49 |
| | 2 (3rd) | 30 | 8.00 (0.73) | 33.47 (15.97) | 53.68 (13.59) | 20.22 | 7.17*** | 4.46 |
| | 3 (3rd) | 10 | 8.15 (0.69) | 23.70 (17.16) | 42.40 (17.34) | 18.70 | 3.28** | 4.28 |
| | 4 (3rd) | 28 | 8.31 (0.79) | 29.34 (18.75) | 47.70 (16.16) | 18.36 | 6.18*** | 5.01 |
| | 5 (3rd) | 21 | 8.06 (0.66) | 35.83 (14.07) | 49.64 (10.38) | 13.81 | 5.31*** | 4.77 |
| | 6 (4th) | 31 | 9.05 (0.56) | 44.65 (15.55) | 49.94 (13.28) | 5.29 | 2.14* | 3.64 |
| | 7 (4th) | 30 | 9.1 (0.62) | 38.08 (26.80) | 47.78 (11.45) | 9.70 | 2.11* | 4.73 |
| | 8 (4th) | 16 | 9.22 (0.65) | 51.13 (21.77) | 41.31 (15.91) | −9.81 | 3.00** | 5.24 |
| | 9 (4th) | 31 | 9.11 (0.52) | 53.21 (14.22) | 47.06 (15.79) | −6.15 | 2.72* | 2.74 |
| | 10 (4th) | 29 | 9.17 (0.59) | 40.31 (17.99) | 48.38 (12.68) | 8.07 | 3.35** | 1.43 |
| | | 252 | 8.68 (0.84) | 38.36 (19.91) | 47.67 (13.86) | 9.31 | 8.08*** | 4.18 |
| Second cycle | 11 (5th) | 23 | 10.00 (0.92) | 31.61 (17.47) | 53.78 (23.91) | 22.17 | 5.37*** | 3.51 |
| | 12 (5th) | 34 | 10.23 (0.80) | 42.03 (22.30) | 53.00 (24.42) | 10.97 | 3.07** | 3.92 |
| | 13 (5th) | 31 | 10.35 (0.86) | 39.21 (15.20) | 57.61 (21.86) | 18.40 | 6.54*** | 2.49 |
| | 14 (6th) | 39 | 11.05 (0.82) | 47.14 (15.74) | 49.09 (11.92) | 1.95 | 1.03(ns) | 1.87 |
| | 15 (6th) | 19 | 11.29 (0.72) | 42.47 (11.70) | 50.42 (11.44) | 7.95 | 2.77* | 3.20 |
| | 16 (6th) | 24 | 11.09 (0.51) | 43.96 (11.78) | 48.32 (15.68) | 4.36 | 1.75(ns) | 1.17 |
| | 17 (7th) | 41 | 12.26 (0.90) | 36.91 (16.05) | 31.44 (12.98) | −5.47 | 2.39* | 2.80 |
| | 18 (7th) | 29 | 12.50 (0.85) | 28.40 (14.20) | 35.14 (15.66) | 6.74 | 3.63** | 3.27 |
| | 19 (8th) | 30 | 13.39 (0.90) | 26.11 (13.68) | 40.93 (38.80) | 14.82 | 1.93(ns) | 2.98 |
| | 20 (8°) | 21 | 13.62 (1.02) | 26.16 (10.61) | 43.72 (26.28) | 17.56 | 3.35** | 3.86 |
| | 21 (8°) | 21 | 12.79 (3.44) | 32.10 (11.50) | 52.14 (20.59) | 20.05 | 6.07*** | 4.06 |
| | | 312 | 11.66 (1.76) | 36.63 (16.75) | 46.21 (22.76) | 9.58 | 7.90*** | 3.01 |
| *Total* | | 564 | 10.37 (2.06) | 37.40 (18.23) | 46.86 (19.31) | 9.46 | 11.19*** | 3.57 |

*Note*: * $p < .05$; ** $p < .01$; *** $p < .001$; *Av.* Frec. = Average frequency of the mediation patterns/minute

Table 4 presents the average frequencies of the mediation patterns grouped according to the established categories system (Navarro et al., 2014). The first dimension, (a) mediation of general aspects, contemplates a general mediation patterns type that are not directly linked to any reading process; the second, (b) mediation of metacognitive knowledge and use of reading strategies, includes the metacognitive aspects involved in learning to read, along with those aspects

related to using textual integration and text integrating strategies with previous knowledge and experiences; the third dimension, (c) mediation of personal-social adaptation processes, contains personal elements associated with feeling motivated by and interest in reading, as well as group elements linked to support dynamics and student participation.

**Table 4.** Average frequency with which the mediation patterns appeared per dimension and educational cycle.

| | Mediating general aspects | Mediating metacognitive knowledge and use of strategies | | Mediating personal-social adaptation processes |
|---|---|---|---|---|
| | | Metacognitive knowledge | Use of strategies | |
| First Cycle | 1.18 | 0.07 | 1.71 | 1.22 |
| Second Cycle | 0.92 | 0.06 | 1.29 | 0.72 |
| Total | 1.05 | 0.06 | 1.50 | 0.96 |

In general terms, the dimension with the highest average frequency was *mediation of metacognitive knowledge and use of reading strategies*. However, major differences were observed within this dimension between the subdimension associated with metacognitive knowledge and that referring to reading strategies. This second subdimension includes patterns about these strategies: self-regulation, textual integration, activation/integration of previous knowledge. The least observed mediation patterns in teachers' work were those that referred to the subdimension about metacognitive knowledge. With the initially analyzed results, the fact that possible differences per cycle were noted came over as being relevant. The results showed that all the dimensions were observed more frequently for the first-cycle teachers, particularly the presence of patterns corresponding to the dimension *Mediation of use of reading strategies.*

## Reading progress and use of mediation patterns in reading

For the purpose of evaluating the relation between the observed progress made in reading performance in the groups and the mediation patterns used by the teachers in class, first of all a correlation analysis was carried out between the post-test – pretest differences and the use of mediation patterns. Table 5 offers the results. The following variables were included in these analyses: gender, age and number of students per year.

**Table 5.** Correlation analysis of the different variables considered in the study.

| | No. students per year | Age | Gender | Post-test CL-PT | Improvement | Frequency |
|---|---|---|---|---|---|---|
| No. students per year | --- | | | | | |
| Age | .11** | --- | | | | |
| Gender | .02 | .14*** | --- | | | |
| Post-test CL-PT | −.01 | −.19*** | −.13** | --- | | |
| Improvement | −.09* | −.05 | −.05 | .57*** | --- | |
| Frequency | −.30*** | −.27*** | −.05 | −.04 | −.06 | --- |
| *Av.* frequency | −.49*** | −.32*** | −.05 | −.03 | .14** | .51*** |

*Note*: * $p < .05$; ** $p < .01$; *** $p < .001$ (Bilateral); *Av.* Frequency = Average frequency of the mediation patterns according to observation times.

Pearson's correlation analyses showed a significant, but weak, index between the average frequency and the improved reading comprehension marks. The number of students per year and age negatively correlated with the average frequency of observations. The analyses performed according to educational cycle did not offer any essentially relevant changes in relation to the overall results. The only outstanding aspect was that the level of correlation between the average frequency of the employed mediation patterns and the observed improvements increased, with $r = .18$ for the first cycle and $r = .17$ for the second cycle. A significant negative correlation was found in the first cycle between gender and the average frequency of patterns, which indicated an inverse relation between the number of male students and the average frequency of mediation patterns.

In order to elucidate to what extent the use of the observed mediation patterns generally explained the progress made in reading performance, regression analyses were carried out using the improvement marks as the dependent variable and the average frequency of mediation patterns as the independent variable. Table 6 provides the results of these analyses. By considering the 21 groups and all the mediation patterns as a whole, the average frequency of the mediation patterns explained 2% of the variance in the reading comprehension improvement marks, as measured by the CL-PT test. In the first cycle, this incidence in the variance in improvement was 3.2%, while it was 2.7% in the second cycle. Of the variables Number of students per year and Age, only the former entered the regression equation, and its explanatory power was poor. The Durbin-Watson statistic values were appropriate, between 1.79 for the model corresponding to the average frequency of the mediation patterns and 1.67 for the model corresponding to the variable Age. In short, we collectively considered the observed mediation patterns, which presented a limited explanatory capacity of the students' progress, although they influenced reading performance.

**Table 6**. Regression analysis of the improvement marks in the use of teaching mediation patterns in class.

| $N$ = 564 | Improvement | | | | |
|---|---|---|---|---|---|
| | *Beta* | *Adjusted* $R^2$ | $\Delta R^2$ | Residual | *F (p)* |
| *Av.* frequency | .14 | .02 | .02 | 19.89 | 11.30** |
| No. students per year | −.09 | .01 | .01 | 20.02 | 4.57* |
| Age | −.05 | .00 | .00 | 20.22 | 1.31 (ns) |

*Note*: * $p < .05$; ** $p < .01$; *Av.* Frequency = Average frequency of the mediation patterns according to observation times.

We then identified which mediation patterns were the most widely used in the various groups, as well as the relation between the employed mediation patterns and the improvements made. Table 7 shows the average frequency with which the patterns appeared for all the observed groups-classes. So it was possible to identify the most widely used mediation patterns in those groups with favorable differences in the post-test. Mediation patterns PM_3 *Establishing support in comprehension, sequencing or performing the activity* (0.73), PM_16 *Mediation of using textual integration strategies* (0.91) and PM_18 *Mediation of motivation, attitude and interest in relation to reading* (0.87) presented the highest average frequency in practically all the groups, and for both those groups with post-test gains and with non significant gains or even losses. It is noteworthy that in three cases, the identified mediation patterns presented a higher average frequency in the first-cycle groups, and this difference was statistically significant compared to the second cycle for PM_3 ($t_{(2, 19)} = 2.87$, $p = .01$) and PM_18 ($t_{(2, 19)} = 2.50$, $p < .05$). In both cases, equality of variances was assumed.

**Table 7.** The most widely used mediation patterns in the groups that achieved improvements between the initial and final study phases, and the relation with improvements.

| *Mediation patterns* | Average frequency of the mediation patterns according to observation times for each group-class | | | | | | | | | | | | | | | | | | | | | Total | *Improvement (r)* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | | |
| PM_1 | 0.23 | 0.31 | 0.04 | 0.13 | 0.42 | 0.11 | 0.09 | 0.36 | 0.13 | 0.05 | 0.14 | 0.26 | 0.08 | 0.06 | 0.34 | 0.05 | 0.13 | 0.04 | 0.07 | 0.09 | 0.15 | 0.16 | -.06 |
| PM_2 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -.30 |
| PM_3 | 1.32 | 1.08 | 1.04 | 0.94 | 0.90 | 0.66 | 0.87 | 0.88 | 0.65 | 0.43 | 0.61 | 0.86 | 0.40 | 0.69 | 0.72 | 0.24 | 0.84 | 0.29 | 0.62 | 0.64 | 0.60 | 0.73 | .15 |
| PM_4 | 0.17 | 0.02 | 0.04 | 0.11 | 0.08 | 0.07 | 0.04 | 0.04 | 0.07 | 0.00 | 0.17 | 0.15 | 0.02 | 0.01 | 0.02 | 0.00 | 0.09 | 0.58 | 0.04 | 0.41 | 0.36 | 0.12 | .21 |
| M_P5 | 0.04 | 0.00 | 0.00 | 0.03 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | .21 |
| M_P6 | 0.01 | 0.02 | 0.01 | 0.03 | 0.01 | 0.01 | 0.01 | 0.04 | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.01 | -.33 |
| M_P7 | 0.00 | 0.04 | 0.00 | 0.01 | 0.01 | 0.02 | 0.05 | 0.02 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | -.11 |
| PM_8 | 0.00 | 0.05 | 0.01 | 0.09 | 0.00 | 0.00 | 0.16 | 0.01 | 0.02 | 0.01 | 0.00 | 0.02 | 0.01 | 0.01 | 0.02 | 0.01 | 0.06 | 0.00 | 0.13 | 0.00 | 0.02 | 0.03 | .06 |
| PM_9 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.11 | 0.02 | 0.02 | 0.00 | 0.03 | 0.02 | 0.06 | 0.00 | 0.01 | 0.03 | 0.05 | 0.02 | .20 |
| PM_10 | 0.00 | 0.01 | 0.08 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | .13 |
| PM_11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | .00 |
| PM_12 | 0.05 | 0.04 | 0.04 | 0.05 | 0.02 | 0.05 | 0.04 | 0.06 | 0.05 | 0.00 | 0.06 | 0.02 | 0.02 | 0.03 | 0.00 | 0.00 | 0.03 | 0.01 | 0.02 | 0.01 | 0.03 | 0.03 | -.04 |
| PM_13 | 0.45 | 0.24 | 0.20 | 0.39 | 0.41 | 0.37 | 0.46 | 0.36 | 0.21 | 0.18 | 0.29 | 0.24 | 0.10 | 0.24 | 0.29 | 0.04 | 0.18 | 0.15 | 0.22 | 0.07 | 0.18 | 0.25 | -.01 |
| PM_14 | 0.04 | 0.30 | 0.46 | 0.13 | 0.07 | 0.27 | 0.24 | 0.33 | 0.21 | 0.09 | 0.02 | 0.15 | 0.02 | 0.02 | 0.23 | 0.07 | 0.07 | 0.07 | 0.33 | 0.06 | 0.05 | 0.15 | -.11 |
| PM_15 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | .17 |
| PM_16 | 1.16 | 0.88 | 0.86 | 1.38 | 0.92 | 1.13 | 1.27 | 1.58 | 0.60 | 0.27 | 1.26 | 1.03 | 1.10 | 0.46 | 0.76 | 0.38 | 0.42 | 1.02 | 0.66 | 0.99 | 1.07 | 0.91 | .27 |
| PM_17 | 0.34 | 0.12 | 0.22 | 0.13 | 0.03 | 0.11 | 0.13 | 0.11 | 0.09 | 0.02 | 0.32 | 0.15 | 0.31 | 0.04 | 0.02 | 0.02 | 0.16 | 0.09 | 0.24 | 0.35 | 0.25 | 0.15 | .55** |
| PM_18 | 1.40 | 1.21 | 1.12 | 1.48 | 1.26 | 0.74 | 1.28 | 1.25 | 0.61 | 0.34 | 0.48 | 0.89 | 0.37 | 0.30 | 0.54 | 0.34 | 0.60 | 1.02 | 0.59 | 1.15 | 1.23 | 0.87 | .28 |
| PM_19 | 0.26 | 0.15 | 0.15 | 0.11 | 0.59 | 0.06 | 0.07 | 0.12 | 0.03 | 0.03 | 0.03 | 0.09 | 0.02 | 0.02 | 0.16 | 0.01 | 0.13 | 0.00 | 0.04 | 0.04 | 0.07 | 0.10 | .13 |

*Note*: * $p < .05$; ** $p < .01$.

For the contrasts observed between the average frequency of the mediation patterns and the improvement obtained, PM_17, *Mediation of using strategies for activating previous knowledge, and for integrating knowledge and experiences with new contents*, obtained a significant correlation level with improvement ($r = .55$, $p < .01$). This mediation pattern explained 26% of the variance in improvement and was statistically significant (adjusted $R^2 = .26$, $F_{(1, 19)} = 8.19$, $p = .01$). PM_2 *Extending the activity by performing the related tasks suggested by the teacher or the students* obtained a correlation level of $r = -.42$ ($p < .05$), with improvement when the sum of the observations made of the patterns was taken into account, rather than the average frequency according to the observed time. Likewise, PM_6 *Repeating an activity to put into practice the strategies worked on and to evaluate them being included in the activity by the students* also obtained a significant negative correlation ($r = -.44$, $p < .05$) with improvement. This means that, as in the previous case, this pattern would have been particularly observed if bigger difficulties appeared in the groups. In this case, this mediation pattern explained 15% of the variance in improvement, which is a statistically significant result (adjusted $R^2 = .15$, $F_{(1, 19)} = 4.50$, $p < .05$). PM_4 *Jointly recapitulating the work previously done with the objective to take it up again* obtained a marginally significant correlation ($r = .31$, $p = .08$), with improvement when the frequency of patterns was taken into account, and it explained 10% of the variance in the improvement marks.

Finally regarding differences per cycle, the analyses showed that pattern PM_3 for the first cycle obtained a marginally significant relation with improvement ($r = .52$, $p <$

.06), as did PM_2 ($r$ = -.52, $p$ = .06) and PM_6 ($r$ = -.45, $p$ = .09). For the second cycle, pattern PM_16 showed a very significant relation with improvement ($r$ = .82, $p$ = .001; adjusted $R^2$ = .63, $F_{(1, 9)}$ = 18.34, $p$ = .002), and it explained 63% of its variance. PM_17 particularly displayed its explanatory power in the second cycle ($r$ = .75, $p$ = .004; adjusted $R^2$ = .52, $F_{(1, 9)}$ = 11.61, $p$ = .008).

## Discussion

The present study aimed to identify teaching mediation patterns in specific reading activities that acted as decisive factors for the improvements made in the reading performance of students learning Basic Education from socio-cultural disadvantaged contexts. More specifically, the work hypothesis indicated that making more progress in reading performance would be significantly related to implementing metacognitive and self-regulatory mediation patterns, and those related more to personal-social adaptation processes.

The results generally revealed that the groups obtained higher average frequencies of using mediation patterns, and obtained more gains. The established relation was significant, but weak, when globally analyzed. According to these results, the changes observed in reading performance were accounted for by a low percentage of using the observed mediation patterns. The results also showed a limited implementation in relation to both the variety of patterns employed by the teachers and intensity of use. Of the 19 employed, the most widely used ones initially found in the categories system were patterns: PM_16 *Mediation of using textual integration strategies*; PM_3 *Establishing support in comprehension, sequencing or performing the activity*; PM_18 *Mediation of motivation, attitude and interest in relation to reading*. These three patterns obtained a higher frequency in 20 of the 21 observed groups-classes. We stress that these results are coherent with the importance attached to these processes in the different aforementioned works because they either form part of the conceptualization of comprehension processes (Kintsch, 1988; Rueda, 2013; Sánchez, 2010) or have been used in empirical studies where their impact has been evaluated on reading competence (Beker et al., 2016; Elbro & Buch-Iversen, 2013; Thiede et al., 2009; van Driel et al., 2018).

The analyses carried out to specifically determine the incidence of all the mediation patterns that explained the change in reading performance showed that pattern PM_17 *Mediation of using strategies for activating previous knowledge, and for integrating knowledge and experiences with new contents* explained 26% of the variance in improvement, and was statistically significant, while PM_4, *Jointly recapitulating the work previously done with the objective to take it up again*, explained 10% of variance, and its level of significance was marginal. The results for PM_17 were consistent with the proposals put forward by several authors (Kintsch, 1988; Sánchez, 2010; León et al., 2012), and with other studies that have specifically analyzed these processes (Beker et al., 2016; Elbro & Buch-Iversen, 2013). We point out that for pattern PM_4, the specific mediation patterns that integrated it referred to aspects that were closely related to activating former knowledge: Reconstructing and jointly revising the work done in previous sessions to specify the achievements made and to consider new goals, and Ask about previous performed activities. Perhaps this consistency would explain the observed statistical results.

Two mediation patterns significantly and negatively correlated with improvement: PM_2 and PM_6. The former refers to *Extending the activity by performing the related tasks suggested by the teacher or the students*. This may indicate that it was put into practice to face a considerable need for in-depth examination and support, which would refer precisely to those groups with more difficulties. Indeed the groups with more gains would not have required such strategies. Pattern PM_6 refers to *Repeating an activity to put into practice the strategies worked on and to evaluate them being included in the activity by the students*. This could suggest that, as with the previous case, it would have been applied to those cases which needed to repeat activities and would reveal the presence of more difficulties. Seven negative correlations were found between the average frequency of the mediation patterns and improvement in reading performance, although only two of them were significant. This result is coherent with that obtained in a previous study (Navarro et al., 2014), which found that these same mediation patterns were positively related to the *need for mediation* assessed by the teachers (this relation was significant for pattern PM_6) and, to a lesser extent, to the observed improvements. In other words, the presence of some mediation patterns would, to a greater extent, take place as a response to difficulties being found in the process than as proactive enrichment strategies.

One aspect that was not initially contemplated herein was to analyze the differences observed between educational cycles. This observation revealed significant differences in implementing mediation patterns according to the cycle, with a higher average frequency found in the first cycle. The mediation patterns most widely used in the study (PM_3, PM_16 and PM_18) were also the same ones used in the first cycle to a greater extent, although these differences were not reflected in the students of this cycle making more reading performance progress. In relation to this finding, it is worth pointing out that, during a seminar held after this study had ended, the teachers of older courses indicated that students were expected to access comprehension without having to offer them general or motivational assistance, which they considered to be more appropriate for younger students. The analysis conducted according to cycles also found marked differences in the relation between mediation patterns and reading progress. Here patterns PM_2, PM_3 and PM_6 were statistically significant for the first cycle. For the second cycle, patterns PM_16 and PM_17 referred to the mediation of textual integration strategies and to strategies that integrate texts with former knowledge, and they significantly explained the change in reading performance. Therefore, the mediation patterns that addressed more complex

reading strategies played a particularly key role in explaining the improvements that older students made. These results agree with the fundamental work by Kintsch (1988), and also with the data acquired in more recent studies, which have evidenced the importance of these processes for reading comprehension (Beker et al., 2016; Elbro & Buch-Iversen, 2013; León et al., 2012).

We also stress that some of the mediation patterns initially considered in the categories system were not observed during the analyzed recordings and, consequently, they were not coded (PM_11, *Being aware of typical reading difficulties*; PM_15, *Mediating the use of transfer strategies and generalization*). This result could be relevant as it moved away from some conclusions drawn from evaluating some intervention proposals and dynamic assessment devices, which have been proven to be precisely more efficient when mediating metacognitive skills and transfer strategies being put into practice (Aguilera & Mora, 2004; Beckmann et al., 2009; Carlson & Wiedl, 2000; Resing et al., 2009; Resing & Elliott, 2011; Souvignier & Mokhlesgerami, 2006; Thiede et al., 2009).

One interpretation of the relatively weak impact of the mediation patterns on reading progress would be precisely based on the fact that the patterns related to metacognitive knowledge and self-regulation strategies barely appear. As the working hypothesis posed, more progress made in the students' reading performance would be expected to be significantly related to such patterns. Accordingly, our results seem to coincide with the aforementioned study into instructional patterns (Preiss, 2009). This study revealed the predominance of pedagogic interactions characterized by teachers' external control, and following up students as regards information acquisition. It is worth considering that in a scenario with a wider variety of mediation patterns, and one that places more emphasis on patterns related to metacognitive and self-regulation processes, the overall effect on reading progress would have, perhaps, been stronger. Moreover, the specific relevance of mediating the use of strategies related to activating and integrating knowledge and previous experiences with new learning contents has been evidenced. This would involve high-level processes that are particularly relevant to explain the comprehension of texts (Graesser et al., 1994; Hacker, 1998; Sánchez, 2010).

### Limitations of the present study and new analyses

This study has dealt with the effect of mediation patterns on learning outcomes, and has attempted to identify some keys related to more effective mediation for students in disadvantaged contexts. However, it is also necessary to deal with the limitations of the present study to make progress in the considered objectives and to draw more definitive conclusions. First of all, although cognitive enrichment programs contribute judgment elements to evaluate the wealth of mediation processes, we have no accurate parameters available that allow us to make comparisons and to evaluate the level of quality that the mediation processes observed in class are at. Secondly, we have no parameters to evaluate the progress that the students make in their reading performance within the school year time frame. This means that although the students are expected to progress, we are unable to accurately determine if the observed progress falls within an expected range. Hence the obtained outcomes may be relevant for not only identifying those mediation patterns that can act as a basis for students in a socio-cultural disadvantaged situation to make progress in reading, but for also establishing knowledge that accumulates in relation to the observed progress, the mediation patterns used by teachers in these contexts, and the students' response to mediation. Finally, we stress that with this article, we did not look closely at variations in mediation patterns in relation to the teachers' individual characteristics, their years of work experience, their degrees of perfection or their gender, or any other individual variables. Nor did we consider the variability in the response to mediation as a consequence of the students' individual characteristics. Future in-depth studies should analyze the effect of these variables in the relation between mediation patterns and progress made in reading.

In short, the present study has identified a series of teaching mediation patterns that are significantly related to the progress made in reading by students from socio-cultural disadvantaged situations. Generally speaking, those groups with whom the analyzed mediation patterns were more frequently used obtained more gains, although relevant differences were observed for the relation between mediation patterns and reading progress depending on the educational cycle. Therefore, the support received in comprehension, sequencing or performing activities has been apparently key for the progress made by the first-cycle students, while the mediation textual integration strategies, and the mediation of activating and integrating prior knowledge with new contents, have been a decisive factor for the progress made by the second-cycle students. So depending on which mediation patterns proved key for explaining the observed improvements, some patterns can be inferred that would allow learning to be optimized and would guide the intervention.

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