The Impact of Revision and Feedback on the Quality of Children´s Written Compositions

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Abstract: Revision is a very important process in promoting evolution in children's narrative texts, although by the end of primary school students are not self-regulated writers. This is an experimental study in which 45 children in the 4th grade were given a pre-test and a post-test intended to evaluate the quality of their compositions. Between the two tests, 2 experimental groups underwent a training programme designed to improve the quality of their texts using revision processes, in the course of which they wrote 15 compositions. Experimental Group 1 had to revise their compositions according to the guidelines laid down in three different tables (one for misspellings, another for punctuation and cohesion and another for coherence). Experimental Group 2 had the same intervention programme but was also given feedback on the initial version of their compositions. The Control Group wrote the same number of compositions, but was not involved in the revision process. Children from Experimental Groups 1 and 2 improved in the quality of their spelling and the cohesion of their texts when compared with the Control Group. Only children from Experimental Group 2 evolved in the coherence of their texts. There were no differences between the performance of Experimental Group 1 and the Control Group at this level.

Keywords: Quality of Textual Production, Revision, Metacognition, Writing

1. Introduction

1.1 Writing Models

Effective writing requires many and varied skills, including the rapid and accurate production of letters and words, generation of ideas, word selection, appropriate use of grammar and punctuation, accurate spelling, planning, translation, evaluation, and revision (Graham, 1990; Hammill, 1987; Torrance & Galbraith, 2006). During Grades 1 through 3, the focus of writing education is on developing the skills necessary to produce letters, punctuation, and words on paper. After the mechanics of writing are mastered, the focus of writing instruction shifts to the development of more advanced skills, including producing complex sentences and paragraphs and the planning, evaluating, and revising that are necessary for textual production (Gersten & Baker, 2001). However, many students do not master these advanced writing skills.

Textual production has been addressed in the works of Hayes and Flower (1980); Hayes (2000); Bereiter & Scardamalia (1993). These models are applied to fluent writers and suggest that the cognitive work beyond producing a text is based on three main cognitive processes: *planning, generating and revising*, which are coordinate rather than linear processes (Borg & Deane, 2011).

Planning is related to previous ideas that writers have about what they want to communicate. Planning encompasses processes related to goal attainment that might be invisible (Hayes & Flower, 1980). When submitted to intervention programmes, children with learning difficulties failed to use explicit planning strategies (MacArthur, Graham & Schwartz, 1991). For instance, in order to plan a narrative, the writer must have a mental representation of the situation and the events. Several studies have shown that narrative superstructure awareness has an impact on the writing behaviour of children and adults (Mandler, 1978).

The *production of written sentences* implies transforming planned ideas into linguistic representations, a process executed in the working memory (Hayes, 2000; Hayes & Flower; 1980; Torrance, Fidalgo & Garcia, 2007). These representations must be transformed into written language. Children in their early years at school suffer various constraints at this level because that they are not fluent in basic writing skills (handwriting, spelling, punctuation). When these skills and processes are not automatic, greater cognitive resources related to working memory must be allocated to manage the text production (Hayes, 2000; Lahey & Bloom, 1994).

Revising involves making changes to the text in order to improve it. Changes to word choices, sentence structure, spelling and punctuation involve explicit linguist knowledge and metalinguistic processes about the language meaning, form and structure of different types of texts (Fayol, 2004). Hayes (2000) suggests a schematic procedure to control revision, including text improvement goals and different revision activities (e.g. reading to evaluate; strategies for solving problems, etc.). Hayes's revised model of writing as working memory model component has a central executive role that coordinates the phonological loop and visual-spatial sketchpad storing verbal and non-verbal information; retrieves information from long-term memory; allocates resources for managing tasks not fully automated that require decision making. The author (op. cit.) includes the decision processes under the cognitive processes of reflection and revision, rather than as components of the executive process.

1.2 Developmental Tendencies

Typically, children from the 3rd and 4th grades tend to make changes to spelling or word choices when revising their texts (Butterfield, 1994). Children at these ages find it easier to correct spelling, capitalization and punctuation (De la Paz, Swanson, & Graham, 1998) than to change aspects that affect the meaning of the text. However, at these ages, orthographic knowledge is not yet complete and can still be a problem for some students (Leijten, Van Waes & Ransdell, 2010).
In most alphabetic codes it is not enough to learn which grapheme or graphemes can be used to symbolize each phoneme. When a phoneme can be represented with more than one grapheme, children must also learn the context in which each spelling is appropriate. Beyond phonology, children must also

reflect on other aspects of linguistic knowledge, such as morphology and morphosyntactic structures, in order to write words correctly. The systematic representation of morphemes in spelling is a relatively late acquisition (Bryant & Nunes, 2004). Thus, revising with children from the 3rd and 4th grades must include metalinguistic reflection on the structure of complex words.

The textualisation of narratives includes the *coherence* of the story and the *cohesion* of the sentences. Knowledge of narrative structure or organization involves identification of narrative elements and their interrelations (Mandler & Johnson, 1977). This dimension of coherence implies a mental representation of the situation and the events as well their temporal and causal relations. In the present study, we focused on representation of narrative structure by using an adaptation of Mandler and Johnson's story grammar, which describes six major categories of narrative information — setting (the introduction of the protagonist), beginning (a precipitating event), reaction (the protagonist's reaction and setting of a goal), attempt (the effort to achieve the goal), outcome (the success or failure of the attempt), and ending (the long-range consequence of the action sequence or the added emphasis). The beginning through the ending makes up an episode. Grammar rules specify temporal and causal relations between categories and delineate how complex stories can occur (Wengelin, Leijten & Van Waes, 2010).

Developmental tendencies in the acquisition of story knowledge are also evident, with children's knowledge usually becoming richer and more elaborate with age (Applebee, 1978; Wengelin, Leijten & Van Waes, 2010). Many children appear to acquire narrative features from exposure to stories through reading and possibly listening, and then transfer these features to their writing (Eckhoff, 1984; Wengelin, Leijten & Van Waes, 2010).

Narratives describe a sequence of events in which connections can differ in their nature, from two parallel activities to a causal connection. When three-year-olds tell or retell a story, they simply juxtapose sequences of facts without establishing interrelations. Four- and five-year-olds show a marked improvement at this level, having become aware of how events are linked (Trabasso & Nickels, 1992). Narratives written by six- to eight-year-olds are fairly similar, with the same level of organization as those produced by four- to five-year-olds. These earliest narratives rarely respect the early framework - trigger- endeavour action- resolution- (Mandler, Scribner, Cole, & De Forest, 1980). There is a clear evolution in written texts between the ages of 6 and 10, when they move on from the simple juxtaposition of events to an integration of events in one or more causal chains (Fayol, 1991). Thus, from the ages of eight to ten, children move from writing coherent stories to producing more refined narratives (Fidalgo, Torrance & Garcia, 2008).

Coherent narratives use specific linguistic markers (articles, pronouns, connectors, conjunctions etc.) in order to organize the continuity of the events. This aspect of text is related to cohesion. Research into to the use of these markers has shown that connectors and punctuation must be analyzed separately (Fayol, 2004). Punctuation, such as the full stop, emerges at the same time as children´s first written productions (Kail & Weissenborn, 1991). Other punctuation marks, such as the comma, appear later (Ferreiro & Zuchermaglio, 1996). The use of connectors appears only in the 3rd grade (Fayol, 1991). Children begin to use these markers in a deictic way (Fayol, 2004) and, around the age of eight, pupils begin to use them with an intratextual function. For instance, the use of definite articles emerges as a way to refer to other

entities, or the personal pronoun to refer to the main character in the narrative (Karmiloff-Smith, 1981). There is an association between the use of these markers and the appearance in the text of certain verb forms, such as the *imperfect,* or certain adverbial expressions such as the "*day before*".

1.3 Improving the Quality of Children´S Written Texts: The Importance of Revision

Many students fail to master basic writing skills. Very often, after an explicit teaching of the written code, there is little further effort to teach, for example, strategies for essay writing. In the last twenty years there has been greater concern with the pedagogy of the written text, and also increased research into the most effective methods, taking into account the cognitive processes harnessed by writers. However, since the evolution of the quality of written texts has been associated with metacognitive e metalinguistic abilities (Singer & Bashir, 2004), intervention has been focused more on older high-school students than on pupils leaving primary school.

Wong and Berninger (2004) define a set of pedagogical principles that teachers should follow in order to improve the quality of student´s written texts. The first takes into account the limited resources of working memory and recommends the use of procedural facilitators by teachers to overcome these limitations. Taking this view as a starting point, Graham, Schwartz and MacArthur (1995) examined the effects of a revising goal to "add information" on the revising behaviour and writing performance of 5th- and 6th-grade students with writing and learning problems. The authors also examined whether procedural assistance in meeting the goal to add information would enhance students' performance. The students in the "add information" situation were further told that adding information (including things that happened, descriptions of things, or details) to their papers would make them better. As in the general-goal situation, they were directed to think about what they wanted to add, to note these changes on their first draft, and to rewrite their story incorporating the planned revisions. In comparison to students assigned a general revising goal to make their paper better, students assigned a goal to add information made more meaning-based changes, particularly additions, when revising their papers. Most importantly, the goal to add information resulted in greater improvement in text quality than the general revising goal. This research proves the importance of revision as a means of improving the quality of written compositions from the 4^{th} and 6^{th} grades. Despite the importance of revising to good writing, many children in state schools do not revise frequently, extensively, or skilfully (Fitzgerald, 1987). Children's revising may further be limited because they (a) fail to establish clear goals and intentions for their writing; (b) find it difficult to evaluate their own writing from the reader's perspective; (c) experience problems determining what needs to be changed, as well as how to change it; and (d) lack adequate executive control to coordinate and manage conflicting revising goals or the separate knowledge and abilities underlying the revising process (Fitzgerald, 1987).

Another pedagogical principle defined by Wong and Berninger (2004), insists on the importance of helping students to understand the relationship between reading and writing and of teaching a specific kind of reading related to revising writing in order to detect the problems of the text. In fact many studies have shown that elementary school children generally overestimate the communicative quality of prepared texts and believe that they and others understand messages that adults consider incomprehensible (Markman, 1981; Olson & Hildyard, 1983).

According to this line of thinking, Real, Bonitatibus and Garrod (1990) conducted two studies in order to learn if children's ability to revise problematic texts could be facilitated through training in a comprehension monitoring strategy. In the first study, third- and sixth-grade children, who were trained in a self-questioning text-evaluation strategy, located and revised significantly more target text problems than did control children. The goal of the second study was to compare the effects of prior exposure to problematic texts and self-questioning strategy training. The results showed that a combination of the two approaches was most effective in increasing third graders' revision scores. The results from both studies show that acquiring a strategy for evaluating the comprehensibility of a text can help children make appropriate revisions to improve the communicative quality of a text.

Wong and Berninger (2004) also stress the importance of schematic procedures to facilitate text-generation and the revision components of a composition. As mentioned previously, revision may be defined as the writer´s attempt to improve the text. Within this definition, experienced writers and novices seem to focus on different aspects of the text. There is considerable evidence to show that less experienced revisers focus their attention more locally on words and spelling than on cohesion and coherence (Cho & MacArthur, 2010). According to Fitzgerald and Teasley (1986), instruction in narrative structure had a strong positive effect on organization in story writing and also enhanced the quality of 4th grade children´s compositions. There is no reason to suppose that the same principle cannot be applied to the phase of revision, and not only at the level of cohesion but also at the level of spelling and coherence. Another dimension that could be important is explicit feedback (McCurdy, Skinner, Watson & Shriver, 2008) in order to give children more specific clues as to how to improve the quality of their narrative texts.

In summary, revision is a very important means of promoting evolution in children’s narrative texts; however, at the end of primary school, pupils still have serious difficulties and are not self-regulated writers. They find it easier to correct spelling and punctuation than to coordinate specific elements of the text. At these ages, children may still have orthographic problems related to knowledge of the morphology of words. Thus, in order to enable them to transform the text, it is important to give children explicit prompts at the level of spelling, sentence cohesion and narrative coherence. Explicit feedback related to problems in the initial version of the narrative might also be valuable. It would therefore be interesting to evaluate the impact of guidelines for revision (in a structured way, such as a table) that act as a trigger for revision and add information about the several levels at which revision should be done. These guidelines should include direct instructions relating to spelling, punctuation, connection between sentences and narrative organization.

In the present study we intend to evaluate the effect of a comprehensive training programme in which children were encouraged to revise their texts with the help of tables used as guidelines for them to analyze their spelling and also the cohesion and coherence of their text. Another aim is to evaluate the effect of explicit feedback on their initial compositions, in order to test the effectiveness of the revision process.

2. Method

2.1 Participants

The participants were 45 8-year-old children from two 4th grade classes. In these classes there were no regular classroom activities/instruction relating to writing or writing compositions. The average age of the pupils was 102 months, with a standard deviation of 6 months, a minimum age of 97 months and a maximum age of 122 months. They were randomly divided into three groups (two experimental groups and one control group), and their levels of intelligence and language (lexical and syntactic linguistic level) were controlled.

We carried out ANOVAs to compare level of intelligence, lexical knowledge and syntactic development. The results were: F (2, 42) = 0.251; p = 0.780 for the level of intelligence, F (2, 42) = 0.206; p = 0.815 for lexical knowledge and F (2, 42) = 0.276; p = 0.761 for syntactic development. The control of these last two variables might be important since the ability to produce syntactically complex sentences is a necessary prerequisite for writing texts (Torrance & Jeffery, 1999). Lexical development is also relevant since narrative texts presuppose the mobilization of mental categories in order to represent events (Fayol, 2004).

We also carried out ANOVAs to compare the three groups with regard to the proportion of misspellings, the proportion of errors of punctuation and cohesion and the average points awarded for text coherence in an initial composition. The results were: F (2, 27) = 0.427; p = 0.657, for the proportion of misspellings; F (2, 27) = 0.106; p = 0.900 for the proportion of errors of punctuation and cohesion and F (2, 27) = 0.159; p = 0.853 for the average points awarded for text coherence.

2.2 Experimental Design

This was an experimental study in which children were given a pre-test and a post-test intended to evaluate the quality of their written compositions at the level of spelling, punctuation and cohesion, and also coherence. Between the two tests, the experimental groups underwent a training programme designed to improve the quality of their texts based on revision processes. The post-test was done 2 weeks after the end of the training programme. Two experimental groups were established according to the nature of the intervention. Experimental Group 1 had to revise their compositions according to the guidelines of 3 different tables (one for misspellings, another for punctuation and cohesion and a third for coherence). Experimental Group 2 followed the same intervention programme but their initial version of the composition was colour coded according to the type of mistakes they had made. That happened for all the composition they have written. The colours were the same as those used in the tables to designate each category. This strategy would help us to understand the relevance of specific feedback for the evolution of written texts. The control group wrote the same number of compositions but was not exposed to any kind of revision. All the pupils wrote 15 compositions on a specific topic over a period of two months. The compositions were written in class, but the revision process was done on the following day and individually with the researcher, in order to register children´s verbalizations during the revision process.

2.3 Tasks and Procedure

2.3.1 Evaluating the Children's Intelligence

The level of the children's intelligence was evaluated using the coloured version of Raven's Progressive Matrices test (Raven, Raven, & Court, 1998), because it is not overly dependent on verbal aspects.

2.3.2 Evaluating the Children's Lexical Development

Lexical development was evaluated using the Verbal Definition test (Sim-Sim, 1997). This test is composed of 35 items including names of foods, animals, jobs, geometric figures, parts of the body, geographical features, as well as verbs and adjectives, the pupils are asked to define each of the words. The total score for this test is 70 points. The reliability of the test was .75.

2.3.3 Evaluating the Children's Syntactic Development

Syntactic development was evaluated using the Understanding of Complex Structures test (Sim-Sim, 1997). This test consists of 32 items, each composed of a sentence and a related question (e.g. Ana put on her raincoat because it was raining. Why did Ana put on her raincoat?) The total score for this test is 32, with one point awarded for each correct answer and no points for wrong answers. The reliability of the test was .81.

2.3.4 Revision Tables

In order to provide the pupils with instruments to help them with their revision, they were given three tables: one for spelling (including indications for a more precise phonetic analysis, and also for contextual and morphological rules); another for punctuation and cohesion (including information about textual and punctuation conventions and the use of linking devices); and finally a third for coherence. It should be stressed that the evaluation of textual productions at the pre- and post-test stages was based on these tables (appendix A, B and C, respectively). With regard to spelling, the number of mistakes per text was computed and calculated as a proportion of the total number of words, bearing in mind the differences in length between the pupils' texts. Also we only analyzed the misspelling from a quantitative point of view, in spite of the fact that the tables work out in children different types of errors. These were the data that informed the subsequent statistical analysis. With regard to cohesion, errors in punctuation and omissions of linking devices were computed, as well as the proportion of errors and omissions. Concerning correction criteria for narrative structure (textual coherence), a maximum of twelve points was awarded for each of the six levels of structure and narrative analysis (appendix C). Two judges, whose ratings were 95% in agreement, awarded these marks. In the design of the tables, special attention was paid to the age and skills of the participants. Simple, clear vocabulary was therefore used: simple in the sense that it was appropriate for the age and skills of the participants, and clear in that the aim was to make the information readily accessible. Thus, in each table the types of error were colour coded and the researcher when correcting the compositions of pupils in Experimental Group 2 used the same colours. The table for textual coherence was based on Mandler & Johnson's model

(1977). At the revision stage, as has already been mentioned, the children in Experimental Groups I and II were left alone with the researcher, who handed them one table at a time so that they could revise and improve their compositions. They were told that they should use a particular table for a particular purpose (e.g. "Use this table to try to correct your spelling mistakes", etc.)

3. Results

The descriptive statistics included in Table 1 suggest that the results for spelling performance obtained by the 2 experimental groups and the control group are similar at the moment of pre-test. At the post-test moment, the spelling performance of Experimental Group 2 was better than that of Experimental Group 1 although the latter was better than the control group. These trends were not confirmed by ANOVA.

Table 1: Mean scores and standard deviations in spelling performance (number of misspellings) at pre-test and post-test

	Pre-test		Post-test	
	M	*S.D.*	*M*	*S.D.*
Exp. G. 1	11.53	11.07	7.03	5.29
Exp. G. 2	15.02	13.63	4.86	9.83
Control G.	12.18	12.42	13.70	15.23

A significant moment x group interaction was found, which means that the effect of the training differed from group to group as far as spelling performance was concerned $F(2, 42) = 4.52$; $p = 0.02$. A post-hoc analysis shows that the effect of the training factor proved significant when comparing Experimental Group 1 and Experimental Group 2 with the control group. There were no significant differences between the two experimental groups.

The averages recorded for the number of errors and omissions in punctuation and textual connectors (Table 2) at the pretest moment did not differ greatly, although the control group performed slightly better than the others. At the moment of post-test, the data clearly indicate that the two experimental groups achieved far better results than the control group. However, Experimental Group 2 seemed to be better than Exerimental Group 1. The results of the ANOVA show that the moment $F(1, 42) = 10.20$; $p = 0.00$, group $F(2, 42) = 4.46$; $p = 0.02$ and group x moment interaction $F(2, 42) = 9.72$; $p = 0.00$ variables produced significant effects.

Table 2: Mean scores and standard deviations in errors of punctuation and cohesion at pre- test and post-test

	Pre-test		Post-test	
	M	*S.D.*	*M*	*S.D.*
Exp. G. 1	21.10	13.19	14.09	7.29
Exp. G. 2	21.68	8.75	11.82	7.89
Control G.	19.38	12.55	20.81	6.81

The post hoc procedure revealed that the revision process had led to significant effects on the children's textual cohesion, inasmuch as there were significant differences between the results achieved by the two experimental groups and those of the control group, whereas there were no differences between the results of the experimental groups themselves. The averages achieved in the scores for textual coherence (Table 3) clearly indicate that the two experimental groups obtained much better results at the post-test moment than did the control group, while Experimental Group 2 emerged with the superior performance. The same table also shows that the averages scored by the three groups when the composition was written at the pre-test moment did not differ greatly from one another.

Table 3: Mean scores and standard deviations in scores awarded for textual coherence at pre- test and post-test

	Pre-test		Post-test	
	M	*S.D.*	*M*	*S.D.*
Exp. G. 1	5.70	1.83	7.00	1.41
Exp. G. 2	6.20	2.15	10.10	1.45
Control G.	6.10	2.28	5.50	1.90

The results of the ANOVA show that the group F (2, 42) =21.78; p=0.00 and moment x group interaction F (2, 42) = 15.76; p = 0.00 variables also produced substantial effects. Post-hoc analysis shows that this difference in evolution is due to the impact of the experimental condition of Experimental Group 2, given that the average scores achieved by the members of Experimental Group 2 in this test differ significantly from those obtained by Experimental Group 1 and the control group. On the other hand, the same analysis reveals no differences between the average scores obtained by Experimental Group 1 and those of the control group.

4. Discussion

Firstly the results of this study confirm the point of view put forward by various authors (Graham, Schwartz & MacArthur, 1995; Real, Bonitatibus & Garrod, 1990) when they say that revision is a way to improve the quality of textual production, namely in narrative texts. This claim is endorsed by the fact that following a revision training programme with specific guidelines, children from the 4th grade improved their compositions in terms of spelling, cohesion and coherence. Our data confirm Graham, Schwartz and MacArthur's `research (1995), which showed that specific instructions for revision can significantly improve the quality of children´s written texts.

The tables, with their specific guidelines, led to significant progress and provided the children with revision objectives and evaluation criteria when looking at their own texts, thus helping them to overcome the dificulties they have in evaluating their own writing from the reader's perspective and in determining what needs to be changed, as well as how to change it (Fitzgerald, 1987).

When we compared results from Experimental Groups 1 and 2, we reached the conclusion that specific feedback on the initial version of the composition only made a difference in changing aspects of the text related to coherence. In fact, in spite of the slight superiority of Experimental Group 2 in spelling, punctuation and use of connectors, explicit feedback failed significantly to improve children's performance at these two levels when compared to Experimental Group 1. Neither should it be forgotten that both groups were better than the control group at these two levels. These results suggest that it might be easier to make changes to spelling, punctuation and the use of certain connectors than to the narrative structure as a whole.In fact, there is considerable evidence that less experienced revisers focus their attention more locally on words, so that explicit feedback could be more useful in giving children specific help in improving the quality of their narrative organization (McCurdy, Skinner, Watson & Shriver, 2008). Our results show that revision with specific guidelines about narrative structure, together with explicit feedback concerning children´s initial version of their composition, had a strong positive effect on organization in story writing and also enhanced the quality of 4th grade children´s compositions. The importance of explicit feedback in these areas is endorsed by the fact that there is no difference between the performance of Experimental Group 1 and the control group.

There is a general consensus that during revision children focus their attention on individual words. However, there are very few studies into the effect of revision with specific guidelines on learning spelling and its contextual and morphological constraints. Our data sustained the hyphothesis that revising spelling based on specific guidelines (as contained in the tables) concerning ortographic restrictions, helps children to detect missspellings and to understand contextual and morphological rules, as well as carry out more accurate phonological analyses of words. Children´s verbalizations during revision confirmed this point of view (e.g."I made a mistake here because there are two "ss" and I only wrote one" or "The r is not in the right place because it is "empregado" (employed) and not "empergado").

We find the same kind of verbalization in respect of cohesion ("Here it's 'she' and not 'Amélia again") and coherence ("I need to say more about what Joana's mother was like"; "I didn't explain what

happened before"). The results of our study raise the possibility of applying these principles and materials in a classroom context. In fact, in this research, the revision process was done individually in order to give the researcher the opportunity to record children´s verbalizations. However, as compositions were written in class, the revison process with these guidelines could also be implemented in the same pedagogical context. Very often, at least in Portugal, there is scant pedagogic instruction aimed at improving the quality of textual production, a fact which lends support to the previous statement. It would be interesting to replicate this study with children from the 5th and 6th grades, in order to evaluate the impact of these materials and guidelines on other school populations.

References

Applebee, A., Langer, J., & Mullis, I. (1986). *The Writing Report Card: Writing Achievement in American Schools*. Princeton, NJ: ETS.

Applebee, A. N. (1978). *Child's Concept of Story: Ages 2-17*. Chicago: University of Chicago Press.

Bereiter, C. & Scardamalia, M. (1987). *The Psychology of Written Composition*. Hillsdale, NJ: Erlbaum.

Berninger, V. W., Mizokawa, D. T., & Bragg, R. (1991). Theory-based diagnosis and remediation of writing disabilities. *Journal of School Psychology*, 29, 57–79.

Borg, E. & Deane, M. (2011). Measuring the outcomes of individualised writing instruction: a multilayered approach to capturing changes in students' texts. *Teaching in Higher Education*, 16 (3), 319-331. http://dx.doi.org/10.1080/13562517

Bryant, P. & Nunes, T. (2004) Morphology and spelling. In Nunes, T. & Bryant, P (Eds), *Handbook of Children's Literacy* (pp; 181-197). GB: Kluwer Academic Publishers.

Butterfield E. (1994). *Children´s Writing: Toward a Process Theory of Development of Skilled Writing.* Greenwich, CT: JAI Press.

Cho, K., & MacArthur, C. (2010). Student revision with peer and expert reviewing. *Learning and Instruction*, 20, 328–338.

De la Paz, S., Swanson, P. & Graham, S. (1998). The contribution of executive control to the revising by students with writing and learning difficulties. *Journal of Educational Psychology*, 89, 203-222.

Eckhoff, B. (1984). How reading affects children's writing. In M. Jensen (Ed.), Composing and comprehending. Urbana, IL: National Conference on Research in English and ERIC Clearinghouse on Reading and Communication Skills.

Fayol, M. (1991). Stories: A psycholinguistic and ontogenetic approach to the acquisition of narrative abilities. In Pierault Le Bonniec, G. & Dolitsky, M. (Eds.) *From Basic Language to Discourse Basis Processing* (pp; 229-243). Amsterdam: Benjamin.

Fayol, M. (2004). Text and Cognition. In Nunes, T. & Bryant, P (Eds), *Handbook of Children's Literacy* (pp; 181-197). GB: Kluwer Academic Publishers.

Ferreiro, E. & Zucchermaglio, C. (1996). Children´s use of punctuation marks: The case of quoted speech. In C. Pontecorvo, M. Orsolini, B. Burge & L. Resnick (Eds.), *Children´S Early Text Construction*. New Jersey: Lawrence Erlbaum.

Fidalgo, R., M. Torrance, & J. N. Garcia. (2008). The long-term effect of strategy-focused writing instruction for grade six students. *Contemporary Educational Psychology*, 33, 672–693.

Fitzgerald, J. (1987). Research on revision in writing. *Review of Educational Research*, 57, 481-506.

Fitzgerald, J. & Teasley, A. (1986). Effects of Instruction in Narrative Structure on Children's Writing. *Journal of Educational Psychology*, 78 (6), 424-432.

Gersten, R. & Baker, S. (2001). Teaching expressive writing to students with learning disabilities: A meta-analysis. *Elementary School Journal*, 101, 251–272

Graham, S. (1990). The role of production factors in learning disabled students' compositions. *Journal of Educational Psychology*, 82, 781–791.

Graham, S., Schwartz, S. & MacArthur, C. (1995). Effects of goal setting and procedural facilitation on the revising behavior and writing performance of students with writing and learning problems. *Journal of Educational Psychology*, 87 (2), 230-240

Hammill, D. (1987). Assessing the abilities and instructional needs of students. In D. D. Hammill (Ed.), *Assessing the Abilities and Instructional Needs of Students: A Practical Guide for Educators, Psychologists, Speech Pathologists, and Diagnosticians* (pp. 5–37). Austin, TX: PRO-ED.

Hayes, J. R. (2000). A new framework for understanding cognition and affect in writing. In R. Indrisano & J. R. Squire (Eds.) *Perspectives on Writing: Research, Theory and Practice*, (pp.6-44). Newark, DE. International Reading Association.

Hayes, J. R. & Flower, L. S. (1980). Identifying the organization of the writing process. In L.W. Gregg & E. R. Steinberg (Eds.), *Cognitive Processes in Writing*, (pp.3-30). Hillsdale, NJ: Erlbaum.

Hichmann, M. (2000). Le developmment de l´organisation discursive. In M. Kail and M. Fayol (Eds.) *L´Acquisition Du Langage*. Paris: Presses Universitaires de France.

Kail, M. & Weissenborn (1991). Conjunctions: Developmental Issues.In G. Pieraut Le Bonniec and M. Dolitsky (Eds.), *From Basic Language to Discourse Basis Processing* (pp. 125-142). Amsterdam: Benjamin.

Karmiloff- Smith, A. (1981). The grammatical marking of thematic structure in the development of language production. In W. Deutsch (Ed.), *The Child´s Construction of Language Processing* (pp 122-147). New York: Academic Press.

Lahey, M. & Bloom, L. (1994). Variability and Language Learning Disabilities. In G. P. Wallach & K. G. Butler (Eds.), *Language, Learning Disabilities in School-Age Children and Adolescents: Some Principles and Applications* (pp.354-372). Needham Heights, MA: Allyn & Bacon.

Leijten, M., Van Waes, L., & Ransdell, S. (2010). Correcting Text Production Errors: Isolating the Effects of Writing Mode From Error Span, Input Mode, and Lexicality. *Written communication*, 27(2), 189-227.

Mandler, J. M. (1978). A code in the node: The use of a story schema in retrieval. *Discourse Processes*, 1, 14—35.

Mandler, J. M., & Johnson, N. J. (1977). Remembrance of things parsed: Story structure and recall. *Cognitive Psychology*, 9, 111-115.

Mandler, J. M., Scribner, S., Cole, M. & De Forest M. (1980). Cross-culture invariance in story recall. *Child Development*, 51, 19-26.

MacArthur, C, Graham, S., & Schwartz, S. (1991). Knowledge of revision and revising behavior among learning disabled students. *Learning Disability Quarterly*, 14, 61-73.

McCurdy, M., Skinner, C., Watson, S. & Shriver, M. (2008). Examining the effects of a comprehensive writing program on the writing performance of middle school students with learning disabilities in written expression. *School Psychology Quartely*, 23, 471- 586.

Markman, E. M. (1981). Comprehension monitoring. In W. P. Dickson (Ed.), *Children's Oral Communication Skills* (pp. 61-84). New York: Academic Press.

Olson, D. R., & Hildyard, A. (1983). Writing and literal meaning. In M. Martlew (Ed.), *Psychology of Written Language: A Developmental and Educational Perspective* (pp. 41-65). New York: Wiley.

Raven, J., Raven, J.C., & Court, J.H. (1998). *Raven Manual: Section 4, Advanced Progressive Matrices*. Oxford, UK: Oxford Psychologists Press Ltd.

Real, C., Bonitatibus, G. & Garrod, A. (1990). Fostering revision skills through training in comprehension monitoring. *Journal of Educational Psychology*, 82, 275-280.

Sim-Sim, I. (1997). Avaliação da linguagem oral: um contributo para o conhecimento do descobrimento linguístico das crianças portuguesas. Lisboa: Fundação Calouste Gulbenkian. Textos de Educação.

Singer, B. & Bashir, A. (2004). Developmental Variations in Writting Composition Skills. In Stone, A., Siliman, E., Ehren, B. & Apel, K. (Eds.), *Handbook of Language and Literacy: Development and Disorders* (pp. 559–582). New York: The Gilford Press.

Torrance, M. & Jeffery, G. (1999). *The Cognitive Demands of Writing*. Amsterdam: Amsterdam University Press.

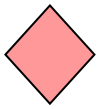
Torrance, M., & Galbraith, D. (2006). The processing demands of writing. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of Writing Research* (pp. 67– 80). New York: Guilford Press.

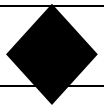
Trabasso, T & Nickels, M (1992). The development of goal plans of actions in the narration of a picture story. *Discourse Processes*, 15, 612-630.

Wengelin, A., Leijten. M., & Waes, V.L. (2010). Studying reading during writing: New perspectives in research. *Reading and Writing*, 23(7), 735-742.

Wong, B. & Berninger (2004). Cognitive Processes of Teachers in Implementing Composition Research in Elementary, Middle and High School Classrooms. In Stone, A., Siliman, E., Ehren, B. & Apel, K. (Eds.), *Handbook of Language and Literacy: Development and Disorders* (pp. 600–623). New York: The Gilford Press.

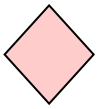
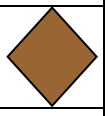
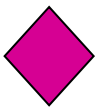
Appendix A

Types of Mistakes	
Words and sounds that are written exactly as they are pronounced *(Pay attention to the sounds. To write these words correctly you only need to listen to the sounds and the letters associated with them.)* ▪ There are letters or syllables missing. ▪ You have too many letters or syllables. ▪ There are sounds in the word that are not written exactly as they are spoken. ▪ You have written two words joined together (e.g. "aindabem", which is written "ainda bem) or you have separated one word into two (e.g. "tam bem", which is written "também"). ▪ You have confused or mixed sounds or letters (commonly confused sounds /letters are f/v, b/d, ch/j, ei/ai, pra/par, es/se, etc.).	
Words and sounds that have rules. ▪ Before a[p] or a [b], or at the end of word, we write [m] and not [n]. ▪ At the beginning of words we write [r]. Between vowels, when we want the sound [esse], we write [ss]. ▪ When we write a single [s] between vowels, we pronounce it [z]. ▪ [Guê] is pronounced [j] when followed by an [i] or an [e]. When we want the sound [guê] before these vowels we have to add a [u]: [gui] or [gue]. ▪ The sounds [je]/[ji] are sometimes written [ge]/[gi]. ▪ [C] is pronounced [s] when followed by an [i] or an [e]. When we want the sound [c] before these vowels, we have to write [qu]: [qui] or [que].	
Words and sounds that depend on the verb tense or type of word ▪ In verbs, we have to use a [-] when we want to add a pronoun (like *me, te, se,* or *lhe,* among others). ▪ The third person singular of regular verbs in the past tense always ends in the sound [u]. If the verbs end in *er*, the third person singular ends in *eu* and if the verbs end in *ir* , the third person singular ends in *iu.* ▪ Some verbs end with the reflex pronoun "-se" and others, on the conjunctive form	

with "sse". In order to distinguish we can put the verb on the negative. If "se" is correct behind the verb in the negative form of the sentence, then the verb must be written with the reflex pronoun "-se". If not is the conjunctive form with "sse". (Ex: "O jantar come-**se** sozinho/ O jantar **não se come** sozinho"; "Se eu comesse sempre tudo" / Se eu **não comesse** sempre tudo"). ▪ Adjectives ending with the sound [oso] are written with [s], not [z]. ▪ Te sound [ão] is spelt this way in words that are not verbs, or in verbs in the future tense. When a verb is in the present or in the past, we write [am] in the third person of plural. ▪ The plural of [ão] may be [ães], [aos] or [ões]. ▪ Verbs ending in [ar], [er] or [ir] do not add an [e] after the [r]. ▪ The sound [u] at the end of names is written [o].	
Words that have no rules: ▪ These are words you just have to learn by heart to know how the sounds are written.	
▪ Words that begin with [h] or that have a consonant that is not pronounced	

SPELLING

Appendix B

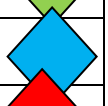
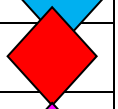
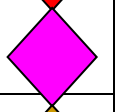
Grammar rules	
▪ **All sentences always begin with a capital letter and so do proper names and the names of cities, rivers, countries, etc.**	
▪ **There as to be agreement between feminine and masculine, plural and singular, and verbs must agree with the rest of the sentence (bold is the right sentence).** Example: "As meninos vão à praia " / **"Os meninos vão à praia"** "Os menino vão à praias" / **"Os meninos vão à praia"** "Os meninos vai à praia" / **" Os meninos vão à praia"**	
▪ **Proper use of punctuation** - Sentences end with [.] in they are affirmations/orders, [!] in they are exclamations or [?] if they are questions. - Inside a sentence, we separate ideas with commas [,]. - When we are introducing something we use [:]. - When we want to show that there are other ideas that are missing, we can use [. . .]. - In dialogues we use [:] to introduce direct speech, change paragraph, put one hyphen [-] before the words and another after them, and then say who spoke.	
▪ **When we need to separate a word at the end of a line, we use a [-] and continue on the next line. We cannot separate words between syllables, except if there is a double letter [(ss) or (rr)], in which case we write one on each line.**	
▪ **We have to use linking words between ideas so that the sentences make sense, for example:** Example: *but; because; then; therefore; in any case; meanwhile; and; or; as; although.* BE CAREFUL when choosing linking words, because they depend on the context in which they are used and are needed so that the sentence makes sense.	
▪ **BE CAREFUL sometimes we put too many words, or words that should be replaced by others to make the sentence easier to understand.** ▪ **To make a better connection between the sentences, you can replace the name of a thing or person with a pronoun.**	

▪ **You need to make a new paragraph when starting a dialogue or changing the subject. If this is not the case you do not need to make a new paragraph.**	
▪ **You need more words to make the sentence easier to understand.** ▪ **You need words that make it easier to link two sentences.**	

Cohesion

Appendix C

Coherence

Aspects to consider	
▪ **Is there a description of *where* the story takes place?**	
▪ **Is there a description of *when* the story takes place?**	
▪ **Is there a description of what the characters are like (appearance, what they feel, how they behave, etc.)?**	
▪ **Do the characters' actions contribute to the conclusion? Do the characters sometimes come up against obstacles?**	
▪ **Do the characters' actions contribute to the conclusion? Do the characters sometimes come up against obstacles but find ways to overcome them and solve their problems?**	
▪ **Does the end of the story make sense in terms of what happened before?**