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Early Literacy Assessment: development and validation of a model

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Abstract

This research addresses the influence of autonomous writing productions of students at the early childhood education level. Its aim was to determine to what extent the early introduction of this type of writing improves the quality of the written productions. With a sample of 48 4-year-old students from two schools, following a quasi-experimental design (pretest and post-test), written discourses related to a given classroom task were assessed. In the experimental group multidimensional and autonomous writing strategies were used, while in the control group the writing was approached via explicit instructional practices. The results indicate that students in the experimental group show a greater development at all levels in the written text. Also, it has been shown that the learning of the textual superstructure precedes learning of other levels of the language, as providing the written discourse with a communicative purpose encourages the development of the textual macro and microstructure.

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1. Introduction

The learning of writing in Early Childhood Education presents many inconsistencies related to the activities used in its teaching and, in general, to its methodological approach. It is commonly observed that classroom activities consist of many exercises associated with the learning of a notational system (alphabetic and numeric), based on

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explicit instructional strategies. It is exceptional to witness preschool tasks where writing becomes a meaningful learning, with notational and notional cognition (Tolchinsky, 2003). That is to say, a kind of functional and pragmatic writing in which there is an interaction with the children's previous knowledge, a writing which allows for an interrelation with the environment through the active construction of knowledge (Grabe & Kaplan, 1996).

Early literacy development takes place in interaction with a literate social context, conditioned by the child's sociocultural environment (Vygotsky, 2006), where functional (the purpose of writing), linguistic (observation of different notational forms of writing) and relational (the symbolic and notional nature of writing) writing principles are inferred. North American research on emergent literacy and Latin American contributions to the psychogenesis of writing emerged following these principles (Tolchinsky, 1993). These models describe the acquisition of writing from various preliterate stages that follow a precise order in early literacy acquisition (Ferreiro &Teberosky, 1979).

Early writers develop a complex internal logic which is responsible for their original pre-alphabetic compositions (Ferreiro, 1991; Teberosky, 1992). This internal logic allows children to progress in their writing training when they are solving cognitive and notational conflicts on their own. As Tolchinsky states: “the learning of writing and of the written word is not additive, but functions through rearrangements of knowledge of diverse content, type and level” (Tolchinsky, 1993:10). These rearrangements are triggered in children by the different internal conflicts through which they develop their learning. Learning to write is a complex cognitive process that cannot be separated from the very act of writing.

Research on the psychogenesis of writing by Ferreiro and Teberosky (1979), Ferreiro (1991), Tolchinsky (1993) and Cuetos (2008) have focused on the field of textual micro-structure (lexical and syntactic levels). Apart from Teberosky (1992), few studies delve into the building of textual macro-structure and super-structure in early literacy learning (Vega et al., 1999). However, these elements are also present in writing from the start, especially when writing is contextualized, as stated by Van Dijk (1983).

2. Objectives and Research Hypothesis

The aim of our research was to determine to what extent the use of independent writing in infant education improves the learning of writing, as compared with teaching practices based on explicit instruction. Our study shows that there are significant differences in children's written compositions when they experiment independent writing in their early literacy development.

3. Method

The contrast of the hypothesis was performed using an experimental design with pretest-posttest contrast group. The independent or experimental variable is represented by the practice of writing and multidimensional independent practices. The independent variable corresponds to the results of the assessment of the students’ written production. The moderating variables would be the programming and development model of teaching (project methods, development of teaching units, work places...) used, age of children, age of onset of schooling and the number of pupils per class. To neutralize the effect of moderating variables we chose two centres with a similar number of students per group: the experimental group consists of 25 students from a public school and the contrast group of 23 students from a private school. In both schools, teachers programmed learning and teaching units from the textbook used in conjunction with student worksheets as their main teaching resources. Finally, the beginning of schooling in both centres is at 3 years old and the age of the children involved in the study is 4 years old.

The intervention carried out in the experimental group consisted of the introduction of autonomous writing in class, after the teacher was trained in this teaching and learning strategy. Therefore, the teacher of the experimental group participated in a project of lifelong learning based in centres which discussed, among other issues, the method of self-teaching and writing assessment. In the contrast group, the teacher did not receive specific training and her students follow an explicit instructional practice.

The assessment of student writing was carried out using a method of authentic assessment in which teachers from both groups invited their students to complete a class assignment, which was to write independently about "What do you do on your birthday?" The productions of the students were evaluated with the "Scale for the Assessment of textual writing in kindergarten" (https://es.surveymonkey.com/s/escritura_textual).

The contrast of the situations before and after the intervention was performed using Mann-Whitney. This analysis was complemented by a qualitative description of the features observed in the microstructure, the macrostructure and superstructure of the productions of children.

4. Results

The results obtained after comparing the two samples come to indicate the existence of statistically significant differences in favour of the experimental group (ZU = 5,949, p = 0.0001). These differences allow us to reject the null hypothesis with a probability of error less than one ten thousandth. Thus, the alternative hypothesis, that the exercise of independent writing and multidimensional practices favour the development of children's written discourse, gains ground.

This statement, global in nature, holds up in the further analysis of child speech. So, when we compare the scores obtained by students in relation to the development of microstructure, macrostructure and superstructure writing, pupils from the experimental group rated significantly higher than in the contrast group.

Table 1 shows the disaggregated scores for both groups regarding the microstructure, emphasizing two areas: one group with the largest contrast (first four items), indicating a more incipient development of the writing level and another, in which the experimental group is better represented (items 6-9), with a more mature development.

Table 1. Frequency distribution relative to the microstructure

Item	No Information		Never		Sometimes		Almost always		Always	
	Exp.	Con.	Exp.	Con.	Exp.	Con.	Exp.	Con.	Exp.	Con.
1.Continuous, wavy stroke (linearity)		9	22	14	1				2	
2. Strokes of discontinuous elements		9	25	19		1				
3. Straight characters and tightly or semi-closed curves (pseudo letters)		9	25	10		4				
4. Writing of known letters		9	22	1	3	3		4		6
5. Characters related to object features		9	23	12		2			2	
6. Writing with hypothesis of amount		9	4	14	3		5		13	
7. Writing with hypothesis of variety		9	6	14	3		5		11	
8. Syllabic writing		9	21	14	2		1		1	
9. Syllabic-alphabetic writing		9	24	14			1			
10. Alphabetic writing	1	9	24	14						
11. Punctuation writing	1	9	23	11		2			1	1

Table 2 shows that almost all students in the experimental group have developed a composition incorporating both the ideas which clearly express the subject (global coherence) as well as the construction of a text containing thematic progression (linear coherence). By contrast, students in the contrast group have built a discourse which does not clearly identify what topic is being addressed.

Table 2. Frequency distribution relative to themacrostructure

		Experimental	Contrast
		Frequency Distribution	
The text expresses clearly central issue what is being addressed	No Information	0	23
	Never	1	0
	Always	24	0
The different parts of the text are related to each other forming a thematic progression, according to subgenre and type of text	No Information	1	23
	Sometimes	1	0
	Always	23	0

Table 3 shows that in experimental productions subgenus literary reference is easily recognizable; at the same time, the control group's own subgenre conventions are not recognizable.

Table 3.Frequency distribution relative to the superstructure

		Experimental	Contrast
		Frequency Distribution	
The literary subgenre is easily recognizable in the text, which incorporates its characteristic conventions	No Information	1	23
	Sometimes	1	0
	Always	23	0

5. Discussion/Conclusion

In this research, data analysis clearly shows the effectiveness of early interventions with the experimental group, as a proof that the learning of writing at this stage does not depend on the learning of reading, or even that the knowledge of symbolic writing precedes the learning of reading (Frith, 1986). These data were possible because the learning of writing is not confined to the microstructure; on the contrary, children can interpret texts in connection to their macro-structure and super-structure using a logographic reading (Van Dijk, 1983; Fuentes, 2000; 2013).

Data presented in table 1 show there are differences between the experimental group and the control group in the development of their writing at a lexical level. On the one hand, data from the control group focus on the stages of discontinuous scribbling and pseudo letters. In contrast, data from the experimental group reveal that independent writing helps to develop a greater capacity at the lexical level because the data are concentrated on the observation of the variety and quantity hypothesis. This conflict represents a conceptual shift regarding writing in children's minds, since now they make changes in the linear position of their scripts in order to refer to different meanings in their writing (quantity and variety hypothesis), because they do not know all the graphic symbols and are not able to relate them to their corresponding sounds. This means that a large proportion of the experimental group has begun to take fundamental steps towards a syllabic and alphabetic writing. However, the control group does not give spelling a symbolic nature; they just repeat some words they recall from a logographic reading. These differences are a good example of the benefits of independent writing, a kind of instruction that uses situational and contextualized texts in early literacy education.

In terms of the development of writing with full communicative awareness (tables 2 and 3: macro-structure and super-structure), data indicate how independent writing through texts, the highest communicative unit, encourages and improves the learning of word and sentence writing (micro-structure). Thus, we can corroborate the existence of

a direct connection between the use of communication strategies with texts and the improvement of early literacy learning.

Sharing the pen with children in their first written productions, through a scaffolding process, analyzing macro- and micro-structure in a meaningful context, makes the writing of communicative texts easier. Similarly, the evaluation of these texts provides the necessary feedback so that preschool learners continue ahead with their learning process by means of solving the new conflicts in their writing as they appear.

References

Croft W.& Cruse D. A. (2004). *Cognitive Linguistics*. Cambridge: Cambridge University Press.
Cuetos Vega, F. (2008). *Psicología de la escritura. Diagnóstico y tratamiento de los trastornos de escritura*. Madrid: Wolters Kluwer España.
Evans V.& Green M. (2006). *Cognitive Linguistics. An Introduction*. Edinburgh: EUP.
Eynon T. (2002). Cognitive linguistics, *Advances in Psychiatric Treatment*, 8: 399-407.
Ferreiro, E. (1991). *Proceso de alfabetización. La alfabetización en proceso*. Buenos Aires: Centro Editor de América Latina.
Ferreiro, E. & Teberosky, A. (1979). *Los sistemas de escritura en el desarrollo del niño*. México: Siglo XXI.
Frith, U. (1986). A Developmental Framework for Developmental Dyslexia. *Annals of Dyslexia*, 36, 69-81.
Fuentes Rodríguez, C. (2000). *Lingüística pragmática y análisis del discurso*. Madrid: Arco Libros.
Fuentes Rodríguez, C. (2013). La gramática discursiva: Niveles, unidades y planos de análisis. *Cuadernos de AISPI*, 2, 15-36.
Grabe, W. & Kaplan, R. (1996). *Theory and Practice of Writing. An Applied Linguistic Perspective*. London/New York: Pearson Education.
Teberosky, A. (1992). *Aprendiendo a escribir*. Barcelona: ICE-Universidad de Barcelona/Editorial Horsori.
Tolchinsky, L. (1993). *Aprendizaje del lenguaje escrito. Procesos evolutivos e implicaciones didácticas*. Barcelona: Anthropos.
Tolchinsky, L. (2003). *The Cradle of Culture and What Children Know about Writing and Numbers before Being Taught*. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
Van Dijk, T.A. (1983). *La ciencia del texto. Un enfoque interdisciplinario*. Barcelona: Paidós.
Vega, M. de, Díaz, J.M. & León, I. (1999). Procesamiento del discurso. In M. de Vega & F. Cuetos (Coors.). *Psicolingüística del español*(pp. 271-305). Madrid: Trotta.
Vygotsky, L.S. (2006). El desarrollo de los procesos psicológicos superiores. Barcelona: Crítica.