

Cursive Handwriting in Algerian Schools in the Digital Era

الكتابة في المدارس الجزائرية في العصر الرقمي

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Abstract:

This study examines the difficulties encountered by Algerian primary school students in the acquisition of cursive handwriting within the context of the digital age. While handwriting remains a fundamental skill in early education, it has been increasingly marginalized due to the predominance of digital technologies and shifting teaching priorities. This research explores didactic, cognitive, and environmental factors that influence handwriting performance, with a particular focus on 4th year pupils. The methodology combined questionnaires administered to French language teachers, classroom observations, and analysis of students' written productions.

Keywords: Didactics of writing; Handwriting acquisition; Cursive handwriting; Writing difficulties; Digital age.

ملخص:

بينما تظل الكتابة اليدوية مهارة أساسية في التعليم المبكر، فقد تم تهميشها بشكل متزايد بسبب هيمنة التقنيات الرقمية وتحول أولويات التدريس. تستكشف هذه الدراسة العوامل الديدأكتيكية والمعرفية والبيئية التي تؤثر على أداء الكتابة اليدوية، مع تركيز خاص

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على تلاميذ السنة الرابعة. وقد اعتمدت المنهجية على استبيانات موجهة إلى أساتذة اللغة الفرنسية، وملاحظات صفية، وتحليل إنتاجات التلاميذ الكتابية.

الكلمات المفتاحية: تعليمية الكتابة؛ اكتساب الكتابة اليدوية؛ الكتابة المتصلة؛ صعوبات الكتابة؛ العصر الرقمي.

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1. INTRODUCTION

Nowadays, cursive handwriting is less important in education than it was in the past. The advent of tactile technologies has changed habits, and few teachers would still be committed to teaching and upholding cursive calligraphy standards. (Berger, T. 2017) , (Faust, D. G. 2022) and (Makhlouf, L. 2021) . However, this is a central skill in primary school because the objective of teaching French at the primary level is to allow students to acquire a gradual mastery of the graphic code, notably through the knowledge and reproduction of the different forms of letters. (Ministry of National Education, 2016).

This article is partly based on the work carried out as part of a Master's thesis entitled "Study of difficulties in handwriting: Cursive calligraphy. Case of students in the 4th Years Classes», supported by Ghouat Khadidja under my supervision at the University of Médéa (2023). The objective of this research is to analyze the main difficulties encountered by students during the acquisition of cursive writing, as well as to identify didactic, cognitive and material factors likely to explain these difficulties.

Our study starts from the observation that the written productions of pupils enrolled in the 4th year of Primary have many poorly executed tracings, indicating a failure to comply with the standards of handwriting at different levels. In this perspective, our research aims to identify and analyze the causes of these shortcomings. Thus, we ask the following question: What are the causes of the difficulties encountered by 4th year Primary students in the daily practice of cursive writing?

To address this issue, we formulate several hypotheses. In the first place, mastering cursive writing requires regular practice. The difficulties of the pupils could result from insufficient training, related to a limited number of writing sessions. Then, the lack or absence of explicit and systematic reminders outside the dedicated sessions could also accentuate these difficulties. Finally, parental support is another determining factor. A student whose parents do not accompany him or encourage him to practise at home would have more difficulty writing fluidly and correctly, in accordance with the standards of cursive calligraphy.

In order to provide elements of response to the aforementioned points, this article will be organized into three distinct parts. The first will be devoted to the presentation of the general context and theoretical foundations that underlie our problem. The second will present the methodology adopted as well as the analysis tools used. Finally, the third part will present the results obtained and propose a discussion related to the hypotheses.

2. Theoretical foundations of cursive writing acquisition

2.1 What do we mean by writing?

The term «writing» is polysemous because, in French, it refers to various dimensions: the tracing of handwritten letters (graphomotricity or handwriting), *the correct transcription of words according to orthographic standards (spelling), or the production of structured texts, a complex cognitive activity aimed at social communication* (Boscolo, 2008).

Our study will focus not on creative writing or writing texts, but on graphic gesture and encoding skills, that is to say on the processes of letter tracing and orthographic transcription. This focus leads us to consider writing in its material and technical dimension, considered as a motor and linguistic activity involving specific skills from the first years of schooling.

2.2 How to write?

The formation of letters in cursive script is based on a progressive coordination of hand and arm movements. This skill is not innate, but develops over time through structured learning, starting from the first years of life. (Gentaz, I. 2018) , (BaraF., MorinM.-F., Montésinos-Gelet I. and L. Natalie, 2011)

2.3 The acquisition of the act of writing

The learning of writing takes place progressively through several stages. It begins with the *pre-writing* phase, which aims to develop the motor skills necessary for holding and controlling the pencil. Next comes letter learning, followed by word formation, and finally the production of structured sentences and texts (Graham & Santangelo, 2014). Each of these stages plays a

decisive role in the structuring of thought and the enrichment of students' reflective abilities. They require adapted teaching practices and diversified pedagogical strategies.

2.4 The difficulties related to learning cursive writing

Learning cursive writing can be difficult for many students, particularly due to a lack of adequate training in fine motor skills. Here are some of the most common difficulties:

2.4.1 The posture

Correct posture is crucial to avoid muscle fatigue. The teacher must ensure that the students are seated correctly, with their feet on the ground, their backs supported and the chair close to the table. (Wang et al. 2025)

2.4.2 The holding of the pen

Some students may have difficulty holding their pen correctly due to the size or weight of the equipment used. Poor grip can lead to muscle fatigue, thus affecting writing style. (Schwellnus et al., 2013)

2.4.5 The lineage

The non-respect of lines and spaces can harm the management of the graphic space, leading to writing difficulties. Exercises, such as coloring boards, can help raise students' awareness of the different heights.

2. Methodological approach

The objective assigned to this research is to understand the origin of the difficulties related to cursive writing observed on the copies of learners enrolled in 4th Years Classes. The analysis is

based on three investigation tools: the questionnaire, class observation, and written production analysis.

For the questionnaire, we visited 6 primary schools in the wilayah of Médéa where we were able to interview fifteen French language teachers. The class observation was carried out with a teacher who was very collaborative and welcoming. She helped greatly in the realization of this study which took place at the beginning of May.

As part of the observation, we have developed two grids: one intended to observe the activity of the teacher, and the other to analyze the written production of the students. These tools are largely inspired by the Guide to teaching reading and writing at CP (2021) and the Framework for intervention in writing (2017). The study took place in a school located in the wilayah of Médéa. It has six classes and eight teachers, including two French language teachers.

To carry out the practical part of this work, we have opted-let's recall it for three investigation tools. First, we distributed a questionnaire that includes 19 questions divided into four sections:

First section: Profile of teachers

Second section: The teaching and learning of writing

Third section: The writing mode

Fourth section: Correction and evaluation of the writing

Then, we attended three sessions including three dedicated to the in-situ observation of teaching practices as well as their impact on students' behavior regarding cursive writing.

We chose to attend three sessions, given that we are in the 4th year, sessions devoted to writing—whether it is copying or transcription from scripted writing to cursive writing—are rare, practically only one session in each sequence. Thus, we oriented ourselves towards the sessions of Preparation for writing, Dictation and Written Production. Among these, we decided to analyze two sessions in particular: Dictation and Writing Preparation, because they allow the collection of relevant data for the objectives of this research.

In order not to disturb the class too much, we opted for non-participant observation; during the session, we chose not to intervene, leaving full control of the class to the teacher.

The observation grid of the teaching activity is based on seven criteria that aim to allow us to evaluate the quality of the teacher's pedagogical intervention during a session dedicated to learning writing. These criteria are as follows:

Graphic modeling: the teacher shows how to properly form letters, especially in cursive writing.

Clarity of instructions: the tasks are explained.

Correction of errors: students' errors are identified and then corrected.

Individualized advice: the teacher adapts his/her interventions to the students' needs.

Encouragement of collaboration: group or tandem work is encouraged.

Use of interactive activities: dynamic methods are sometimes integrated to stimulate student involvement.

Motivational reinforcement: students' efforts are more or less valued by positive comments.

These criteria cover both the didactic, relational and organizational dimensions of the act of teaching, and allow for an overall view of the effectiveness of teaching practice.

Our second grid aims to analyze written production; we designed it to allow us to identify the specific difficulties related to the graphic act among the students. It is based on nine criteria that will allow us to identify the specific difficulties encountered by learners in their written productions.

Formation of the letters: The letters must be correctly drawn, according to the expected shapes (e.g.: circles of o, loops of f...).

Size of the letters: The letters must have a regular and proportionate size, without significant variations for the same letter.

Inclination and orientation of the letters: The writing must be oriented in a constant way, with a homogeneous inclination.

Spacing between words: The words must be well separated, without overlapping or excessive approximation.

Fluidity of writing: The writing must be continuous, supple, without blockages or interruptions that make it look like drawing.

Differentiation of similar letters: The student must avoid confusion between visually close letters (e.g., m/n, e/a, u/v...).

Capitalization and punctuation: The respect of punctuation guidelines (points, commas...) and the use of uppercase letters is evaluated.

Correct use of lowercase letters: The lowercase letters should remain in normal proportions without encroaching on the height of uppercase.

Respect of interlines: The student must respect the guidelines of the notebook to ensure the regularity of writing.

4. Analysis of the results:

4.1 The questionnaire

In order to respond to the first and third hypotheses formulated beforehand — namely the lack of practice by students in cursive writing and the importance of parental support in this learning—we have chosen to analyze first the results of the questionnaire distributed to teachers of the primary cycle. This tool aims to collect a set of qualitative and quantitative data on the place given to writing in the classroom, the modes of writing used, the difficulties encountered by students in cursive writing, as well as the evaluation practices implemented by teachers.

4.1.1 First section: Profile of teachers

The "A" section of our questionnaire will allow us to collect socio-demographic data. These are four general questions that will focus on age, gender, degree and number of years of experience.

The questionnaire revealed to us that our sample consists of 13 women and 2 men, which means that most of them are women with a rate that exceeds 86%. The average age of the participants is 45 years old, with a majority in the age group between 31 and 34 years. The youngest teacher is 31 years old, while the oldest is 57.

Regarding diplomas, we found a predominance of holders of a bachelor's degree in French, which represents 60% of our sample. Then, 26% of teachers come from the Technological Institutes of Education, while 14% are recruited with other diplomas, mainly engineering degrees.

Most of the teachers surveyed (92.66%) report having more than five years of experience. Among them, 53.33% have been working as a teacher for at least 5 years, while 39.33% have more than 15 years of experience. Only 7.34% of respondents have less than 5 years of experience.

4.1.2 Second section: Teaching and learning writing.

This section, structured around four questions, aims to question teachers about the difficulties encountered by learners in cursive writing, on the particularities of these difficulties, on the importance they attach to this skill as well as on their appreciation of the level of calligraphic mastery of their students.

With regard to difficulties, 80% of respondents indicated that their learners have problems in writing, compared to 20% who thought there were no difficulties in this area.

However, regarding the specification of errors, we can arrange them on three levels:

The first concerns the transition of writing or the passage from scripted writing to cursive writing which, according to the teachers, poses many difficulties for learners; the second relates to writing standards and techniques such as respect for lines, interlines, letter distortion, inadequate training; and finally the last one related to the quality of the writing itself that teachers describe as bad or illegible.

The teachers with whom we conducted our survey are aware of the importance of writing, they were almost all (93%) indicated that it was *Quite/Very* important in the acquisition process of a foreign language.

Most teachers surveyed on their students' performance in writing estimate that 67% are considered *Good*, 33% as *Average*, while no teacher indicated that the writing performance of these students was *Very good* or *Very bad*.

4.1.3 Third section: The writing mode

In this section, composed of eight questions, we will focus on the cursive writing mode, which is at the heart of this research. We formulated questions about cursive writing in 4th Years Classes, on the difficulties encountered, as well as the solutions proposed by the teachers to remedy them.

Regarding the writing mode preferred by students, 73% of teachers indicated that their students prefer cursive writing, while only 27% opt for script writing.

Regarding the sessions allocated to teaching cursive writing; our survey reveals that 80% of the teachers surveyed claim to organize them regularly, so 20% claimed the opposite; that is, not doing it.

In terms of the number of sessions dedicated to cursive writing, teachers indicated that they generally devoted one session per week or one session per 45-minute sequence. Others also mentioned that he proceeded to teach cursive writing during the remediation sessions.

4.1.3.1 Causes of the problems of cursive writing

93% of the surveyed audience chose the three items insufficient sessions in the program, lack of practice on the part of students and parents do not help their children at home to justify the problems in cursive writing among their students. However, only one teacher mentioned the lack of practice in class.

All teachers who participated in our survey (100%) responded affirmatively when asked about the importance of parental support in writing acquisition. They are 13/15 to use motivation tools to encourage their students

As for the motivation tools in use, the majority of teachers who used them specified the methods they used to encourage their students. They stated that they assign them extra grades, they offer their rewards such as decorated stamps for good writers. A teacher told us that he organized games and competitions among students, while providing encouragement through constructive comments and playful exercises.

Regarding teacher training in cursive writing, the questionnaire revealed that 60% of our survey participants did not receive specific training in writing teaching, while only 40% said they had received it.

The proposals put forward by the teachers to overcome the problems of calligraphy, we were able to group them on three levels

4.1.3.2 Writing practice

Indeed, the majority of teachers emphasized the fact that to overcome this problem of cursive writing, more practice was

needed EN 01, EN 02, EN 04, EN 11, EN 12, EN 13 clearly indicated to us that to overcome this problem it was necessary to do more practice.

4.1.3.3 Parental assistance

The teachers also talked about parental support; EN 10 told us: "Parents must help their children at home." For this teacher, parental support is essential. The use of the modal verb 'must' suggests that parents are forced to engage in the acquisitional process, even if this does not always correspond to their will. Tazouti Y. informs us on this subject: *"Several researchers, educators and policy makers share the commonly accepted idea that parental involvement in children's schooling (IPSE) has a positive influence on children's school performance"* (Tazouti Y. 2014: 99)

4.1.3.4 Devote more time to writing

Dedicating more time to writing is essential for EN 03, EN 06, EN 07, EN 08. They indicated that more time would solve the write failure. The EN 07 declared *"More writing sessions in 3th Years Classes so that they learn to write well in 4th Years Classes."* For this teacher, learning to write is strongly associated with an increase in the number of sessions.

4.1.4 Fourth section: Correction and evaluation of writing

The fourth section of the questionnaire was devoted to the evaluation of writing, the privileged moments for correction as well as the criteria on which this latter is based.

Regarding the moments of intervention, the majority of teachers (87%) declared to correct errors during the session, while

only 13% proceed with correction after the end of the scriptural activity.

With regard to corrected habits, it appears that the formation of letters is the point most frequently controlled: 80% of teachers claim to correct it "*always*". Pencil Holding comes in second, with 40% of teachers reporting doing it systematically, while 46% do so 'often' or 'quite often'; only 13% say they never correct this aspect. The posture of students is the least corrected: 33% of teachers monitor it "*always*", compared to 66% who pay attention to it "*often*" or "*quite often*".

As for the criteria used to evaluate writing, the majority of respondents (73%) attach particular importance to the correct transcription of words in cursive, respect for line spacing and legibility of letters. On the other hand, the aesthetics of the letters and the regular spacing between the words are not mentioned by any teacher. The speed and fluidity of the writing gesture are only taken into account by a minority (27%), despite their relevance in the overall appreciation of the quality of writing.

4.2 Class observation

4.2.1 Description and Analysis of the Dictation Session

The session lasted 45 minutes. As we have already mentioned, this time proves to be insufficient in view of the requirements of the school program, especially since only one session is planned per sequence, leaving the teacher the choice between organizing a dictation or a copying activity.

The teacher begins the class by placing on the board a sentence from the textbook, p. 97, in handwriting attached: "*Do you know that Sophie can turn into any animal? It is enough for*

her to ask for this." She, then organized the work in groups. She has some students read (about 8 students have read the sentence on the board). The teacher allowed the students 5 minutes to memorize the words on the board. Then, she closed the board to proceed with dictation of the sentence. The students were given 15 minutes to perform. To conclude, she chose a model of average level, which she corrected on the board with the participation of the students.

4.2.1.1 Session analysis

During the session, we noticed a clear lack of interest from learners in the writing activity; some could not even reread what they had written themselves. The speed of the writing gesture is slow; the students have exceeded the time allocated for the activity (25min). For many of them, the texts copied from their notebooks are illegible, they do not respect lines and interlines. During the session, the teacher tried to correct the mistakes on the sheets by focusing on the students' spelling mistakes. Her goal was to get the students to copy words correctly.

4.2.2 Description and Analysis of the Writing Preparation Session

The session lasts 45min, this session is like a training for written production. At this stage, the student exercises on the elements he will have to mobilize in his written production and becomes familiar with the criteria to be met. By way of example, we can mention the use of the first person singular 'I', the use of the object, or even the use of the present.

The teacher begins by carrying on the board a text taken from the textbook page 101 in cursive script. Leaving blank

spaces for the students to insert the appropriate logical articulators. Then, she gives them time to respond to the activity, which is rewriting the text and filling in the blanks with the appropriate articulators. During this time, she performs table rounds to observe and evaluate the work of her students. Once the activity is completed, she collectively corrects the exercise on the board with the participation of the students. Moreover, each student was invited to correct the mistakes of his classmate, thus promoting mutual aid and collaborative learning.

4.2.2.1 Session analysis

We found that the teacher was correct in her own writing on the board. This one respects the expected standards: a writing that is readable even for students located at the back of the class, proper use of leading spaces, as well as a coherent structuring of sentences on one line.

However, during the correction phase, the teacher's evaluation focused exclusively on the responses provided to the exercise, without worrying about the graphic quality of the writing, including for students whose writing was problematic. This observation leads us to think that this lack of consideration for cursive writing in the evaluation could be explained by a time constraint. Indeed, the teacher seems unable to address both aspects related to content and quality of writing within a single session, which limits the simultaneous achievement of several educational objectives.

4.2.3 The analysis of teaching practice

For the analysis of the teaching task, a grid was drawn up. The teacher correctly models letter training and clearly explains

the instruction as well as the expectations, which would allow students to understand the objectives to be achieved. She carefully observes the students and corrects their mistakes, although the duration of the session is insufficient to offer personalized advice to each one. Despite this time constraint, the teacher encourages collaboration between students, thus promoting collective learning. Although she follows the objectives requested in the program, sometimes it happens that she focuses only on writing assessment, neglecting other aspects of learning.

4.2.3.1 Comment

It seems that the teacher manages to offer students a writing model, considered as a reference to follow. However, we believe that simply showing them how to write well is not enough to guarantee the acquisition of neat writing. Indeed, for the student to develop a real graphic skill, it is essential to have it practiced regularly, both during the sessions dedicated to writing and outside them.

4.3 Copies analysis

In order to address our issue, we have provided ourselves with a grid to analyze the students' copies (See Appendix?)

On the students' copies, we found that the writing presents several problems, notably poorly formed letters, with circles of "o" which are not respected and curves of "f" also incorrect. Moreover, the letters are not uniform in size, some being written in an irregular way, such as the "f", "s", "q" and "n". The inclinations of the letters are irregular, some tilted to the right, others at the top or bottom. However, the spaces between the words are regular, and the writing is smooth and uninterrupted.

Confusion is also observed between certain letters, such as 'e' and 'a', 'm' and 'n', as well as 'i' and 'e', 'e' and 'o', 'a' and 'o'. Despite these errors, students correctly follow the punctuation and capitalization guidelines. Lowercase letters sometimes reach the level of uppercase, especially for letters like 'f' and 'l'. Finally, there is a failure to respect the interlines, and the letters are formed without respecting the writing standards.

4.3.1 Comment

As we have just seen in the analysis of the students' copies. The latter experience several difficulties in cursive writing which has led to unreadable sentences, and difficult to decipher; it takes a lot of time to read their writings.

The copied text was short, however the majority of the tracings were poorly executed. The text was corrected on the board only for this session, that is to say, the student is not used to correcting his mistakes.

5. GENERAL CONCLUSION

The joint analysis of questionnaires intended for teachers and observations made in class highlights several factors that hinder the effective mastery of cursive writing among primary school students. Although the majority of experienced teachers recognize the importance of this skill in training learners, it remains marginalized in teaching practices and is often limited to a few episodic sessions. This lack of regularity, combined with insufficient specific training for teachers, compromises the gradual and lasting acquisition of graphic gesture.

The difficulties noted among students – irregular outlines, poor readability, non-compliance with graphic standards – mainly

find their origin in insufficient practice, a poorly structured didactic framework and an evaluation focused on linguistic content rather than on scriptural form. The absence of explicit instructions and the lack of appreciation for calligraphy in the evaluation criteria also contribute to a growing disinterest among students, who perceive cursive writing as a secondary skill.

Teachers also emphasize the importance of family support, considered an essential lever, but still unequally mobilized. These findings show that any remediation approach involves an enhancement of the teaching of writing: increase in the time dedicated to it, implementation of varied and motivating activities, more in-depth training for teachers, and strengthening of the school-family.

Finally, learning cursive writing can only succeed through a specific didactic organization, combining regularity, clarity and personalized support. Failing this, the gaps between students may widen, permanently compromising scriptural competence.

The results of this study also open interesting research perspectives. It would be relevant, initially, to analyze the graphic gestures in real situations through ergonomic or psychomotor approaches in order to better understand the mechanisms of the observed difficulties. Research could also evaluate the effectiveness of remediation devices integrating motor and sensory activities to improve the quality of the route. Finally, a comparative study of pedagogical practices according to the contexts (urban/rural, public/private) would allow to better understand the influence of the environment on writing mastery.

The question of the role of families also deserves particular attention. A research focused on parental guidance, the family

climate and the frequency of writing activities at home could shed light on their impact on graphomotor development. These tracks offer promising perspectives to enrich the didactic reflection on handwriting and design more effective pedagogical interventions, supported by solid empirical data.

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