



Helping Students in Higher Education to Improve Their Written Products: Effects of a Pedagogic Intervention Study Based on Metacognition and Sociocultural Perspective

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Abstract: The present research aims to test and to analyze the contributions of a specific pedagogical approach to teach academic writing based on metacognition and sociocultural dimension of writing. In particular, we consider the theoretical contributions from Brown (1987), Flavell (1979), and Schraw and Dennison (1994) about metacognition. Complementary to this bi-dimensional view, we base our research on a sociocognitive perspective by considering the theoretical developments of Zimmerman and Risemberg (1997) about three categories of the self-regulation processes of writing. We aim to put this psychological perspective in connection with a sociocultural perspective to writing, in particular the French field of study called “Littéracies Universitaires” (Delcambre & Lahanier-Reuter, 2012a) that analyzes how writing is taught and learned at university as part of specific disciplinary and social contexts. This field of study is similar to American Composition Studies, the main characteristic of which is the systematic teaching of writing skills at universities, but also the theorization of academic writing and an interdisciplinary and transversal approach to writing at university (Delcambre et al., 2012; Donahue, 2008).

Reflection

Our interest on teaching academic writing results from a more general question that have captured our attention since our doctoral studies (PhD, , 2007).¹

1 Please read the opening statement for this collection, “Editing in US-Based Internation-

Our central topics of research have been the metacognitive processes of writing, taking university students as the main focus. In this sense, we have focused our research works on writing in higher education by putting the emphasis on the individuals and their socio-cognitive processes that participate in writing. After having to develop our research from a descriptive and correlational perspective for understanding metacognition in writing, we decided to introduce a more applicative view among our research's interests. In the French context, the questions about the teaching methods for helping post-secondary students to integrate academic writing have started to mobilize certain researchers in the Litteracies Académiques area for the last 15 years. However, few research works about the teaching of academic writing were available in the French scientific literature. For the past 10 years, our research questions were not only about the principles and procedures for promoting the writing acculturation of learners in higher education but also about the development of a multidisciplinary approach. This latter aspect seems an essential component, knowing that several academic disciplines, such as literature, educational sciences, psychology, sociology, and language science, are interested in the characterization and the evolution of writing practices of university students. Also, we thought that multiple persons, teachers in the disciplines, experts on language, tutors, and academic advisors could participate to promote better learning of academic writing.

From this set of questions, in 2016, participating at the CCCC International Researchers Consortium constituted an ideal opportunity to amplify our experiences and knowledge by meeting people from other disciplines and research methodologies as well as other educational persons. We particularly appreciated having a more in-depth view of the writing center as well as the various modalities to support the learning of writing within and outside the academic disciplines in higher education. Several experiences of researchers who had constructed and conducted interventions in their own courses, and who had taken these experiences as a research object, captured our attention. The data and the analyses shared with the participants were extremely rich. We also found that the fact of having different categories of professionals provides benefits such as the comprehension of institutional dynamics that support all education programs.

Thanks to our participation at the CCCC International Researchers Consortium, we consolidated in our professional activities a certain interest in developing a complementary perspective by integrating a multidisciplinary view and actions with professionals other than researchers or

al Publications: A Position Statement," before reading this chapter.

university teachers. From a research perspective, we developed further on this perspective by trying to make a connection between socio-cognitive and sociocultural views and by organizing scientific meetings about learning and teaching writing in higher education. From an applicative perspective, we experienced several modalities to support writing in our own courses, and we have reflected with other teacher colleagues on possibilities for interventions in different contexts. In relation to the complementary vision in working with other types of professionals, we appreciated the advantage of this collaboration during our three-year mission as a member of a center that supports pedagogy in higher education.

For these reasons, we consider the Writing International Exchange, as an international experience, to constitute an opening to other opportunities to do research and take educational action.

Institutional Context

Precisely, the Writing International Exchange allowed us to communicate about our own experience in teaching academic writing. This experience took place, following a collaborative perspective, in a specific learning and cultural context in France. The training program concerned students attending a university in southwest France. This public institution enrolls 24,000 students in different domains, such as Humanities, Linguistics, Arts, Management, Engineering, Health, and Technology. Each year, about 2,000 new students enroll. Similar to all French universities, this institution awards three degree levels: a Licence's degree that comprises the three first years, a Master's degree, integrating two years after the Licence's degree, and a Doctoral (Ph.D) degree. The main characteristic of the Licence's degree in French universities is specialization in a discipline domain and the transmission of knowledge that is basically theoretical.

Since 2013, this university has implemented a comprehensive program to promote students' academic success by developing two principal axes: teaching training, and research oriented to propose alternatives for aiding academic success.² This institutional program integrates a large-scale French government plan to reduce the academic failure of students enrolled in the first years of the Licence's degree. The present research is part of the institutional program following the specific goal to explore the students' writing difficulties and competencies and their relationship to academic success. In particular,

2 The program "Academic success" (PaRé) <http://pare.univ-poitiers.fr/> of the University of Poitiers has been in place since 2013.

we examined the effectiveness of our writing training to enhance the writing performance of students who presented evident difficulties in producing academic written texts. Also, we analyze the links between the academic results and improvement in terms of academic writing.

Introduction

Research Questions

In light with our interest in experimenting with a means to help post-secondary students to improve their written productions, we considered precisely the following questions: To what extent does writing training based on metacognition contribute to improving the post-secondary students' written products in a given entry-level disciplinary course? Does participating in a writing support program improve the students' academic success? In particular, we tested the Self-regulated Writing Strategies Development (SRSD) principles developed by Steve Graham et al. (2005; Berry & Mason, 2012; MacArthur & Philippakos, 2013; MacArthur et al., 2015), given that, following the review of literature presented in the next section, this pedagogic method seems a pertinent option for analyzing the contributions of metacognition and self-regulation. We focused in on three education strategies engaged in the SRSD' perspective: the development of metacognitive knowledge, the direct teaching of strategies for self-regulating writing planning and revising processes, and the peer-tutoring. Complementary to this vision, we chose to integrate writing training into specific discipline content by connecting the program' aims with specific learning goals related to a disciplinary course. Therefore, we engaged a sociocultural perspective by taking into consideration a contextualized learning where the goals and norms of writing are established. A last particularity of the present research was to examine the effectiveness of the writing training to enhance the writing performance of students presenting difficulties in producing academic written texts.

Combining Perspectives to Teach Academic Writing

As mentioned in the preceding section, several theoretical perspectives constituted the foundations for the designing of the teaching. These perspectives correspond to delimited domains of research. According to Otto Kruse (2013), the perspectives on academic writing in European higher education follow three orientations. The first is the analysis of cognitive processes

based mainly on John Hayes and Linda Flower's contributions. The second is the study of discipline contexts and their effects on the development of writing practices in post-secondary education. This tendency illustrates the Writing in the Disciplines perspective and the influence of Composition studies. The third is the exploration of the writing practices in their institutional context, which corresponds to the Academic literacies domain. In this article, we rely on *Littéracies universitaires*, a French-speaking research domain that communicates with Composition studies and Academic literacies (Delcambre, 2018; Delcambre et al., 2012). *Littéracies universitaires* share with these frameworks developed in the English-speaking context issues concerning discipline contexts and the impact of the types of texts on students' writing practices in higher education (HE). From *Littéracies universitaires* and a sociocognitive view, the present research aimed to implement a writing training program based on both metacognition and contextual factors in order to help post-secondary students to improve their academic written productions.

Littéracies Universitaires

Littéracies universitaires emerged in the French-language context 20 years ago looking to explore an essential aspect: the sociocultural perspective of writing (Delcambre, 2018; Delcambre & Lahanier-Reuter, 2010). Following Isabelle Delcambre and Dominique Lahanier-Reuter (2012a), *Littéracies universitaires* concern the study of reading and writing practices within their cultural contexts. Among the specific concerns addressed by this orientation, scholars examine the lifelong nature of academic writing learning through all levels of post-secondary education, the cultural traditions and their associated norms that shape students' social and academic integration, individuals' perceptions (those of teachers and students) about writing, and the particularities of the types of texts with regard to the discipline contexts. The present study searched to contribute to the *Littéracies universitaires* development by exploring three essential sets of questions that have interested this field of research.

First of all, from the beginning of this French-speaking domain a crucial concern has been to understand the writing difficulties of students at the post-secondary level. Instead of considering students' obstacles in writing as a lack of skills, *Littéracies universitaires* view the difficulties as part of the integration processes that students display while learning the diverse writing practices in HE (Reuter, 1998). The various forms, objectives, and intentions that characterize written production across the education levels

and disciplines constitute both fractures and improvements (Delcambre et al., 2012). In this regard, the learning of academic writing corresponds to a long-term and gradual process in which the specific types of texts, their characteristics, and the particular manner in which to express and produce knowledge within the disciplines shape students' writing practices (Delcambre & Donahue, 2011). Coherent with this perspective, the present study focused on students presenting some difficulties in academic writing. Precisely, the training program that we performed considered the explicit teaching of a specific genre of text that students practice into their disciplinary courses. We supposed that facilitating this learning helps students to face their difficulties in academic writing.

The second set of research questions, which complements the previous set, concerns teachers' perspectives. To analyze writing practices within and across disciplines, *Littéracies universitaires* explore teachers' conceptions and their teaching and writing assessment practices. In this issue, the modalities for teaching the norms of the texts specific to the disciplines and the assessment processes for students' writing abilities are part of the questions explored from the teachers' viewpoint. In particular, some researchers (Delcambre & Lahanier-Reuter, 2013; Escorcia, 2015) described teachers' conceptions of writing and their self-reported strategies for promoting students' writing appropriation. These studies revealed that teachers associate certain norms more frequently with academic writing, and that the writing teaching profiles are different in regard to the types of texts and the courses taught (Delcambre & Lahanier-Reuter, 2013; Escorcia & Moreno, 2019). With the present research, we aimed to incorporate the teachers' visions in the design of the training program via a collaborative approach.

The last collection of research questions that interest *Littéracies universitaires* concerns a praxeological prospect—that is a less theoretical perspective and more education action-centered perspective – that constitutes a certain evolution in the domain. As highlighted by Delcambre and Lahanier-Reuter (2010), the question relative to how to teach academic writing was not a priority for the sources of *Littéracies universitaires*, although an essential hypothesis within this domain has considered that writing could be an explicit object of teaching in HE (Delcambre & Lahanier-Reuter, 2012b; Reuter, 1998). For the past fifteen years, several researchers analyzed the effects of educational programs that consider, to different degrees, the writing competences identified by Michel Dabène (1991): linguistic and socio-pragmatic knowledge, communicative and affective dimensions, writers' perceptions or attitudes, and technical and procedural knowledge. Three main modalities have been developed through

these educational programs. First, some of these latter target the acculturation of students to academic writing by considering the heuristic dimension of writing and the characteristics of academic texts (Brunel & Rinck, 2016; Frier, 2016; Gettliffe, 2018; Lafont-Terranova et al., 2017). These programs focus on students' perceptions and attitudes. A second modality relies on reflection as an essential means for learning academic writing practices, where the production of texts other than "classical" formats, such as the portfolio or the "writing reminder" (*souvenir d'écriture*) guides the teaching of writing practices (Bibauw, 2010; Delcambre, 2004). Finally, a third group of education programs concentrates on training for improving students' linguistic skills (Lafontaine et al., 2015; Laurent, 2015). From these modalities, mainly those of the first and second group of programs, there is a consensus: the disciplines and the various forms and intentions of academic written texts play a crucial role in learning academic writing. It appears that, for facilitating the learning of academic writing, the central goal is to encourage writers' awareness related to the type of text and writers' attitudes to writing. Coherent with this tendency, we targeted the individuals' reflection as the central support for teaching academic writing and we adopted as main pedagogic means the promoting of metacognitive processes.

With the three sets of questions (i.e., how do students learn academic writing, and what do they find difficult during this process? How do teachers view the particularities of academic writing? What principles can guide the explicit teaching of writing in post-secondary education?), scholars participating in the *Littéracies universitaires* domain have shown that learning and teaching of academic writing interact with cultural context where the students' writing practices take place. The study we conducted aimed to complement this sociocultural perspective through the promotion of context-based learning of writing and metacognition.

Teaching of Writing Based on Metacognition

Metacognition is considered as an essential variable to learn writing. Individuals need to develop metacognitive skills in order to manage different constraints when they produce written texts in specific contexts. Metacognition contributes to the writers' awareness, this is why encouraging the development of the metacognitive skills seems necessary to learn academic writing.

In regard to the initial definitions proposed by Flavell (1979), Brown (1987), and Schraw and Dennison (1994) from cognitive psychology, metacognition refers to knowledge and strategies that allow individuals

to control their cognitive functioning. In the context of writing, metacognition concerns mainly metacognitive knowledge, that is, the writer's knowledge about the written task (the characteristics of the text, the reader's expectations, etc.), about their own writing strategies, and the adequacy of writing methods for the task (Englert et al., 1988; Raphael et al., 1989). When the term metacognition appears in the education field, it is frequently associated with self-regulated learning, a close concept used to represent the learner's capacity for self-monitoring his or her learning processes. Daniel L. Dinsmore et al. (2008) observed that metacognition and self-regulation refer to similar processes, but self-regulation denotes a more socio-cognitive framework that includes, in addition to knowledge and regulation of cognitive strategies, motivational and emotional aspects. In this case, the learning context plays a dominant role through the social interactions and the specific conditions (materials, task requirements, etc.) that enable individuals to control their cognition, motivations, and behaviors during learning.

Zimmerman & Risemberg (1997) defined writing self-regulation process as being beliefs, attitudes, and actions that writers engage in to attain their objectives during writing. According to these researchers, writers can deploy three forms of self-regulation: covert self-regulation, when the individual controls his or her cognition or emotions during writing, for example, by setting goals or by employing techniques for decreasing the stress associated with a specific writing activity; behavioral self-regulation, which is writers' strategies for self-monitoring the course of the activity when writing; and environmental self-regulation, which is when writers manage writing context constraints, material conditions, and external resources (pairs, guides, or supports) where the production takes place. Researchers (Carey et al., 1989; Harris et al., 2002; Zimmerman & Kitsantas, 1999, 2002) have shown that strategies such as goal setting and self-monitoring contribute to improve the quality of written texts. In addition, metacognitive knowledge related to writing in HE is key to producing good texts (Hacker et al., 2009; Tian et al., 2018). In the same manner, other researchers (Castelló et al., 2009; Colognesi & Nieuwenhoven, 2016; Escorcia & Fenouillet, 2011; Escorcia & Gimenes, 2019; Karlen, 2017) have emphasized the positive role of self-regulation strategies and metacognitive knowledge in planning and revising processes.

Furthermore, in the European French-speaking context, scholars have considered metacognition as a variable strongly associated with academic success in HE (De Clercq et al., 2013; Dupont et al., 2015; Romainville, 1993). These researchers have shown that the university students' capacity to

become aware of their method and difficulties in learning, and their skills in using this knowledge to manage their learning development, contribute to the students' success. Beyond the HE context, the analysis of metacognitive processes continues to mobilize scholars in the Education domain, as evident in recent publications on self-regulation that consider cognitive and motivational dimensions and the function of the learning context (Berger & Büchel, 2013; Cosnefroy, 2011). Some of these research works described the effects of teaching programs based on metacognition applied in different domains of learning in primary and secondary schools. On this foundation, the training program we displayed contemplated both the explicit teaching of metacognitive knowledge and strategies for self-regulating writing, and the situated learning of academic writing.

Writing training based on the cognitive processes: What characteristics in HE?

Given that our contribution focused on the metacognitive processes related to writing, we observed the general principles of the process writing approach (PWA) as identified by Graham and Karin Sandmel (2011). This approach, mainly experienced with young pupils and adolescents, considers the cognitive processes of writing (e.g., planning, transcription, revising) involved in situated writing activities guided by explicit goals. Metacognitive reflection, peer tutoring, and personalized learning play a central role. How do writing training programs in HE implement these characteristics? To answer this question, and knowing that few French research works about this subject have been published, we conducted a state of art review, from English-language literature, focused on writing training programs developed in post-secondary institutions. We identified several studies published between 2005 and 2020. In Education and Psychology databases (ERIC, PsychArticles, and PsychInfo), we found 18 research works presenting the results of writing training programs based on writing processes. This set of studies represent a variety of cultural contexts given that the programs took place in North-American countries (44%), Asian context (39%) and European region (17%). The characteristics of the studies found are presented in Table 8.1 organized by the criterion proposed by Graham and Sandmel (2011) for defining the PWA. Next, we analyze key traits of the training programs displayed in HE that we identified through the state of art. For this analysis, we engaged the follow criteria: a) the place, nature, and modalities for supporting the reflection; b) the location of the sociocultural aspects; and c) the effects of the programs.

Table 8.1. Characteristics of the Writing Training Based on Processes

Criteria	Number of Studies	%
Writing processes		
Planning	1	6
Revising	7	39
Planning and revising	8	44
Planning, translation, and revising	2	11
Writing in situated context		
Non	2	11
Within a specific disciplinary course	6	33
As part of a writing academic training	9	50
Not specified	1	6
Means for the reflection on the writing strategies*		
Non	4	14
Personal journal	6	21
Peer collaboration	12	41
Self-evaluation (questionnaire, interviews)	4	14
Checklist of strategies	3	10
Peer to peer learning		
Yes	12	67
Non	6	33
Type of texts touch*	4	13
Argumentative	5	16
Persuasive	5	16
Narrative	4	13
Literature review, scientific article	3	9
Technical rapport	3	9
Others (essay, procedural or informative text, summaries)	4	13
Not specified	4	13
Sustain personalized		
Yes	4	22
No	14	78
Improvement of the writing performance (effects)		
Yes	9	50
No	5	28
Not specified	4	22

Note: Some studies integrated several strategies or type of texts

Note: The measurement of each criterion ranges from 1 to 4; the global score results from the addition of note from the four criteria; the linguistic errors indicates the number of spelling and grammar mistakes.

Concerning the first topic, the majority of the studies (86%) present training programs that aimed to encourage writers to reflect. Consequently, awareness of writing strategies constitutes a central element. In general, the programs promote the use of specified methods for planning or revising, but only some programs guide learners precisely and directly to display self-regulation strategies. This is the case of researchers who follow the Self-regulated Writing Strategies Development (SRSD) principles developed by Graham et al. (2005). In addition, the studies tested several intervention approaches; the most common was peer tutoring during revising and planning (Covill, 2010; Higgins et al., 1992; Liang & Tsai, 2010; McGrath et al., 2011; McGroarty & Zhu, 1997; Villamil, 1998; Yang, 2010). Other methods were the personal journal to keep track of and reflect on writing development and personalized support delivered by the trainer. The latter was a teaching practice weakly represented in the programs, although from the PWA perspective, it can allow closer monitoring of writing students' progress. Only some researchers (Berry & Mason, 2012; MacArthur & Philippakos, 2013; MacArthur et al., 2015; Negretti, 2012) based their program on this practice.

Relative to the connection between programs that teach writing in a disciplinary context, 50% of the programs took place within methodology courses focused on writing support. For example, Raffaella Negretti (2012) integrated her program in a course on written communication, and Charles A. MacArthur and Zoi A. Philippakos (2013) proposed an independent writing support course. Other programs were, in contrast, associated with learning specific discipline content that the students had to express or to transform through their written production. Thus, Pietro Boscolo et al. (2007), Amy E. Covill (2010), and April L. McGrath et al. (2011) conducted experimentation in psychology courses, and Jyh-Chong Liang and Chin-Chung Tsai (2010) displayed their training in a biology course. However, although certain programs did not explicitly connect to learning within disciplines, the researchers aimed to establish links with learning goals related to the curriculum.

In the matter of the effects of the devices on writing performance, most of the researchers observed that the quality of the students' written text improved after the training. Thus, awareness of writing combined with encouragement to employ planning and revising processes at specific moments of writing helped improve the products, although the measurement of the written text quality varied among the studies. For example, MacGrath et al. (2011) assessed characteristics such as the content, the organization, and the writing' style. On their part, MacArthur et al. (2015) rate the overall quality of the texts based on criteria for content, organization, word choice, sentence fluency, and errors in grammar.

In summary, the writing programs experimented in HE following the writing processes' perspective seem concentrated on the development of metacognitive knowledge through different means to encourage writers to reflect on their writing. However, most programs did not prioritize direct training of self-regulation strategies. In addition, these programs were not very personalized. However, many of them adopted the peer-tutoring thus reflecting a clear sociocognitive perspective. Finally, regarding the dimension of the training programs, only a part of these programs directly attached their content to limited discipline contexts, showing that teaching writing within a specific discipline culture was not a priority for the experimental training within these programs based on writing processes.

After this review, we note that, similar to the reviewed training programs displayed into the Littéracies universitaires domain, the training based on writing processes in HE take the reflective dimension of writing as a central variable. However, the latter programs teach cognitive strategies directly and search to develop the metacognitive knowledge.

The Study

In this section, we will describe the main characteristics of the study, first of all by presenting the context where the training program took place. Precisely, this context was a French university, and our method was a collaborative perspective looking as its main aim to help students in the improvement of their writing productions and texts.

Method and Context of the Research

Through interventional study, we implemented a flexible and collaborative research process both for selecting the participants and for designing the writing program.

The writing training involved students attending a university in southwest France; the institutional context we describe here for this study is the one described above at the start of this chapter ("Institutional Context"). As noted there, several categories of higher education institutions exist in France (Office National d'Information sur les Enseignements et les Professions, ONISEP, 2022): the universities (publics and private institutions), the Grandes écoles, the Specialized Schools, and the Lycées (that are secondary education institutions that propose vocational and technical post-secondary diplomas). The public universities host the majority of French students (Annoot et al. 2019) as consequence of the massive arrival of first-year students, a phenomenon that, as

note Asma Benhenda and Camille Dufour (2015), characterizes the evolution of the French higher education since the mid-1990s. The French universities are essentially multidisciplinary, each institution providing four typical domains: Arts, Literature and Language; Law and Management; Human and social sciences; and Technologies and Health sciences. Concerning the *Grandes Écoles*, they provide in specific domains such as Engineering, Management, Arts and Architecture or Journalism. Finally, the Specialized Schools comprise other domains as social service assistant, specialized educator, nursing, among others.

The public university where we displayed the research study counts 24,000 students. Each year, about 2,000 new students enroll. As all French public universities, this institution awards three-degree levels: the Licence's degree that comprises the three first years, the Master's degree, integrating two years after the Licence's degree, and the Doctoral degree (Ph.D). The main characteristic of the Licence's degree in French universities is specialization in a discipline domain and the transmission of knowledge, basically theoretical.

Since 2013 to 2020, this university implemented a comprehensive program to promote students' academic success by developing two principal axes: teaching training, and research oriented to propose alternatives for aiding academic success. This institutional program integrates a large-scale French government plan to reduce the academic failure of students enrolled in the first years of the Licence degree. The present research was part of the aforementioned institutional program, following a specific goal to explore the students' writing difficulties and competencies and their relationship to academic success. An academic track had been identified by the staff of the aforementioned institutional program as including students with significant writing difficulties: the Licence in Management and Economy (ME). Thus, we decided to focus on this specific disciplinary program.

Following a collaborative process, we contacted the pedagogical team responsible for this academic program in order to know more precisely the students' writing practices and difficulties. Several meetings with the team put in evidence some issues. From the pedagogical teams' view, the students in ME do not possess basic skills necessary to write clear and organized texts. The students' reading ability makes it hard for them to comprehend the complex texts specific to the disciplines of ME. For explaining these difficulties, the pedagogic staff considered several factors. First, a considerable number of foreign students, whose mother tongue is not French, enroll in the ME track. Coupled with weak competence in linguistics (grammar, spelling), the team perceived some students' problems in learning academic writing (i.e., norms, formats, etc.). Also, the educational background of the students was considered as very heterogeneous by the team. Note that in the French education system

there are three tracks for secondary school education which provide an important degree of specialization in terms of knowledge and skills acquired at the end of the high school.³ The pedagogical team observed an increase in the numbers of students following the “professional” track where pupils learn little content related to economics and social sciences. Thus, the pedagogical team perceived these students are less prepared for the courses in the ME program.

After the meetings with the pedagogical team of the ME Licence, we designed the training program with the objective to specifically target the students’ writing difficulties as perceived by the pedagogical team. From the principles of the teaching based on metacognition (see preceding section), we adapted the education strategies in response to the needs and the aims of a specific course integrating the ME Licence degree. Here also, we displayed a collaborative process by associating the teacher responsible of the course in order to integrate the specific disciplinary content and her expectations relative to the students’ written productions.

Participants

The participants were part of the cohort enrolled in ME Licence in the year 2015–2016 which was constituted by 150 students. With the teacher responsible of the specific course for which we provided the writing training, we focused on a group integrating 26 students who had revealed writing difficulties since the start of the university year. Then, we invited this reduced group to participate in the support program. 10 students agreed.

The participants’ average age was 19 (SD 1.55). They were 5 men and 5 women who followed different tracks during their secondary education. All the participants obtained their secondary diploma in France. Despite that the ME program host a large number of student practicing French as second language, only one student with this characteristic participated in the writing course. Table 8.2 shows that some students obtained a professional baccalauréat. This is a specialization of the French high school diploma which progressively trains the pupils for working in specific area of expertise. After the 9th Grade, the professional baccalauréat takes place over three years enabling the pupils to exercise a job or to integrate a post-secondary institution. Other participants received a general baccalauréat with an Economics and Social Sciences orientation. As with the professional baccalauréat, this is a track that pupils choose after the 9th Grade. The main aim of the general baccalauréat is to prepare

3 There are three main types of French high-school diplomas: general diploma (with three possible emphases: Literary; Economics and Social Science; and Scientific), technologic, and professional.

student for accessing post-secondary institutions like the public universities. Opposite to the professional baccalauréat, this kind of diploma does not allow to practice a specific profession. The Economics and Social Sciences path constitutes one among three orientation paths of general diploma, the others being Literary path and Scientific path. Since 2019 these orientations were replaced by 13 domains of specialization that students could choose, for example Arts, Humanities and philosophy, biology, engineering, mathematics, etc.

Research Procedure

The procedure consisted of four phases (Figure 8.1). First, we made an initial measurement of the writing performances in order to delimitate the skills and writing difficulties of participants. This information was helpful to precisely adjust the training accordingly. Second phase, we constituted the sample and we delimited the characteristics of the participants in terms of writing abilities. Third time, we conducted the education program following specific steps. Finally, we assessed the students' writing performances with the intention to perceive the effects of the training program on the improvement of the students' written products. We will describe precisely these four phases.

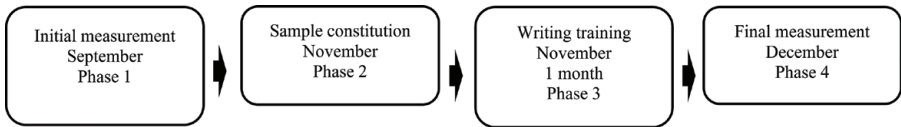


Figure 8-1. Four phases of the research process

First Phase: Initial Measurement of the Writing Performance (IM)

With the objective to obtain a measure of the students' writing qualities and weakness before the education program, we decided to capture this information at the beginning of the academic year. We asked all the students enrolled in the MA Licence degree program (2015–2016) to produce a written text respecting several requirements. This production took place at the first week of the academic year (September), and the students wrote individually during a one-hour group session. The participants produced a summary of a source text that we provided them, to answer a specific question. We chose the writing assignment and the type of text with the teacher for the course to connect the writing training to the specificities (content, general goals, written text specifics) of the discipline teaching. We followed two criteria: the theme of the written production had to relate to the content of the course, and the subject should be easy for the first-year students (see Appendices). We communicated to students the writing assignment and the source text

in a written document that explained the task requirements: to write 10 to 15 lines, to construct sentences without abbreviations, to write legibly, and to make appropriate use of spelling rules. We considered these standards as minimum and easily understandable by students who have just graduated from high school. No other elaborated assessment criteria based on complex textual dimensions of written texts were then communicated, to avoid to create feeling of insecurity or incompetence in these novice students.

For assessing the students' written productions, we elaborated an instrument based on criteria used by the teacher for judging the characteristics of the summary texts produced by her students. Our aim was to reflect the demands and norms that the students would have to respect within that course. The criteria were related to the text's structure, coherence (i.e., write clear paragraphs and transitions between them), the relevance of the answer to the content of the source text, and syntax. Two external judges (psychology master's degree students) assessed the texts by using the assessment instrument we constructed. On this data, we were able to make a diagnosis of the participants' written text once they agreed to participate in training (second phase).

Second Phase: Sample Constitution and Delimiting of the Participants' Writing Abilities

Here, we observed the initial differences between the students who agreed to participate at the training. The description of these disparities was an essential point to identify the students' needs. Following the importance assigned to personalization in self-regulated learning (Paris & Paris, 2001), and considering students' characteristics related to their diverse education backgrounds (Table 8.2), we conducted a qualitative analysis by identifying subgroups of participants. Four subgroups appeared.

The first subgroup included the four students who received the lowest global scores phase at T₁ (Table 8.3). They differed considerably in terms of the assessment criteria, but three of these students obtained very low results concerning mainly Coherence and Syntax. The second subgroup included two participants. Their productions were similar concerning the Coherence and they obtained the lowest result on this point. The third subgroup contained two participants whose results were very similar on Relevance and Author, but quite distant on Coherence and Syntax. Their highest scores at T₁ were for the two first criteria. Finally, the fourth group included two participants with the highest scores for all criteria. Their strongest performances concerned Relevance. After identifying these particularities, we engaged some adaptations for a more personalized program while respecting the general principles presented at the next section.

Table 8.2. Sample Characteristics

Participant	Age	Sex	High-school diploma
P1	19	M	Professional
P2	20	F	Professional
P3	21	M	Literary
P4	17	F	Economic and Social
P5	18	M	Economic and Social
P6	19	M	Technology
P7	22	F	Economic and Social
P8	19	F	Professional
P9	18	F	Technology
P10	21	M	Economic and Social

Table 8.3. Writing Performances

	Author		Relevance		Coherence		Syntax		Global score		Linguistic errors	
	IM	TT	IM	TT	IM	TT	IM	TT2	IM	TT	IM	TT2
Subgroup 1									8	10.2		
P2	3	3	1	2	1	2	1	2			8	4
P10	3	3	2	3	2	2	2	3			2	2
P6	3	3	3	3	1	2	2	3			8	4
P9	3	3	3	3	1	2	1	2			7	7
Subgroup 2									12	13.5		
P8	3	2	2	3	2	3	3	4			5	0
P7	4	4	4	4	2	3	4	4			8	0
Subgroup 3									12	14		
P1	3	3	3	4	4	4	4	4			4	2
P5	3	3	3	4	2	3	2	3			5	5
Subgroup 4									14,5	14.5		
P3	4	4	4	3	3	4	4	4			2	2
P4	3	3	4	4	4	4	3	3			1	2

Note: the measurement of each criterion range from 1 to 4; the global score results from the addition of note from the four criteria; the linguistic errors indicates the number of spelling and grammar mistakes.

Third Phase: Deployment of the Writing Training Program

The training started in November, 3 weeks after teacher had begun its disciplinary course. The program comprised 6 hours distributed in 4 sessions of 90 minutes each, and the program lasted for 1 month. Figure 8.2 shows the training stages, as well as the number of sessions, and the hours dedicated to each time.

As we mentioned above, the writing training program followed the SRSD principles proposed by Graham et al. (2005) that means: acquisition of metacognitive knowledge about writing, improvement in self-regulation skills through explicit teaching, and peer assessment.



Figure 8.2. Stages of the writing training.

A first stage aimed to promote the acquisition of metacognitive knowledge about the kind of text. For about 30 minutes, the trainer and students discussed the characteristics of the summary, readers' expectations, and the structure of this type of text regarding teachers' demands (Stage 1). Next, the explicit teaching phase focused on directly instructing students to practice self-regulation strategies. In particular, they learned planning strategy consisting of identifying key questions (models of questions) that would be useful for reading texts selectively and monitoring the (re)reading of the source texts. Then, with the participation of the students, the trainer constructed a checklist containing the key questions that writers could employ during note-taking (Stage 2). Subsequently, the participants practiced the planning strategies when they wrote a summary individually (Stage 3). The central aim during this time was to acquire certain automatism in exercising self-regulation strategies. The students were invited to integrate the explicit procedural knowledge about writing summaries and the planning strategies (i.e., reading and selecting ideas) that they learned at the previous step. Finally, the trainer led the participants to peer assessments of the texts produced in stage 3. Based on the key questions and the assessment criteria, the students assessed their partners' texts before rewriting their own texts (Stage 4).

From these general principles, we integrated some specificities in relation to the students' needs we identified during second phase of the research. The adaptation of the training program in order to provide a personalized support constitutes a component of the writing teaching based on process and self-regulation (Paris & Paris, 2001). However, we remarked that most of the studies

we reviewed having experimented training writing in HE did not emphasize this element. In order to fill this gap, we decided to emphasize personalization by incorporating, notably during phase 3, complementary resources targeting the improvement of linguistics and textual aspects. Thus, concerning subgroup 1, despite their diversity in terms of writing difficulties, we targeted improvement of Syntax (i.e., to construct clear sentences that contain the basic elements, that is, subject, verb, and complement) and Coherence, but also Content relevance (in the case of P₂ and P₁₀). For the subgroup 2, given that their difficulties touched mainly Coherence, we supported these students by focusing on their use of connector words to clarify the links between the parts of their texts. We insisted the students reread their own texts. Furthermore, the differentiated support provided for the members of subgroup 3 aimed to increase the Content relevance, and P₅ received specific help on Coherence and Syntax. Finally, for the subgroup 4 we supported P₃ for improvement in Coherence and P₁₁ the syntax.

Fourth Phase: Final Measurement of the Writing Performance (FM)

We collected a final measurement of writing, during a collective session, 4 weeks after the training program. However, some participants were absent at this time.

Data Analysis

As the aim of the research was to observe the contribution of writing training to increasing the students' writing performance, we first aimed to determine the improvement between the written texts produced at the beginning (IM) and after the training (FM). This result will concern the students having participated at first and fourth phases (n= 6). With this data, we conducted a global analysis of writing progressions. Then, complementary to this comparison, we checked the differences between the initial written texts (IM) and the final version of the texts produced during the training (TT; see the third stage of the training). This analysis will concern all participants in training. Here, we conducted a more qualitative and detailed vision of the student's progression. Also, we considered the evolutions relative to the linguistic errors.

For determining the writing performance, we calculated a total score by adding the points awarded for each criterion, which were rated from 1 to 4. The writing progression corresponds to the distance (number of points) between the initial measurement and the final assessment.

In addition to the writing performances, we analyzed the improvement of the students' academic success. This assessment corresponded to the grades given by the teacher responsible of the disciplinary course. This grade seemed to us a relevant measure considering the contextualized nature of the present research. Knowing that the problems related to academic success were at the

basis of the research program that mobilized our support program, we aimed to establish to what extent the participants progressed in terms of their acquisition of discipline knowledge in the specific course. We considered the students' academic results just before the writing training and at the end of the semester.

Results

After having presented the method concerns of the research, we will describe the key results in regard of the aim that consisted mainly to study the contributions of the metacognition and sociocultural perspective to the students' academic writing performances. First, we will explore how the quality of the students' written texts evolve from the beginning to the end of the training program. Second, we will consider the progress concerning the students' academic success.

The Evolutions of Writing Performances

Comparing IM and FM: A Global View of Evolutions

Figure 8.3 presents the results from six participants having produced texts in first and fourth phase of the research. The majority of these students (4 over 6) increased their writing performances. In fact, they obtained 2 points of progression on average. Note however that two students decreased their performances. Figure 8.4 indicates the progression of writing performances in function of the criteria. Concerning Relevance and Syntax, 4 students on 6 improved their performances. In contrast, there was a smaller number of participants that progressed relative to Coherence and Author (only 1 student).

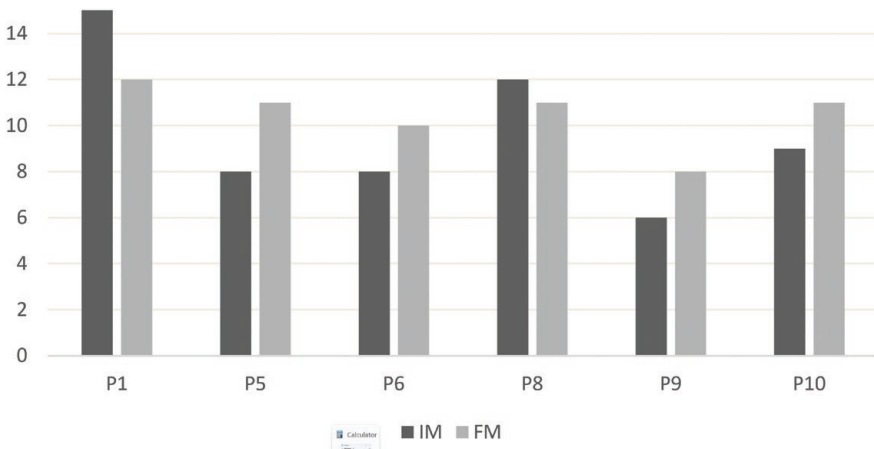


Figure 8.3. Writing performances from initial measurement (IM) to final measurement (FM).

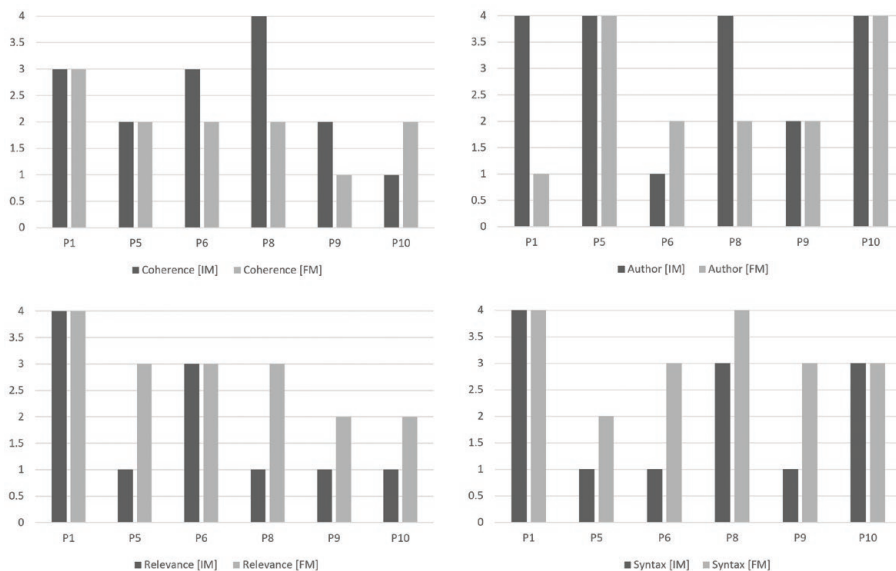


Figure 8.4. Writing performances from initial measurement (IM) to final measurement (FM) in function of criteria.

Comparing IM and TT: A Detailed Vision of Evolutions

Figure 8.5 presents the results of IM and TT by comparing each subgroup. Complementary to this presentation, Figure 8.6 shows the gap between the two measurements in terms of the points (increase or reduction).

Subgroup 1

Considering results for this subgroup, we found improvement of their writing performances mainly in Syntax, Coherence and Relevance (Figure 8.5), the progression having been respectively 1,17, 0,75 and 0,42 points (Figure 8.6). But when we observed in detail the participants' progressions by participants some variabilities appeared (Table 8.3).

In particular, the assessment of P2's writing performances showed that her main improvements concerned Relevance, Syntax and Coherence criteria, which were extremely low scored in the T1. Globally, P2 was able to formulate with her own words the ideas extracted from the reading source text. It was however difficult for her to organize ideas and to put in evidence through writing the key content in order to answer the question. It was also complicated for her to construct good sentences. She was advised to polish her sentences, to select the most important ideas and to apply adequate

connecting words. The number of linguistic mistakes they made decreased by half (Table 8.3) presenting the most remarkable progression of the sub-group 1 on this concern.

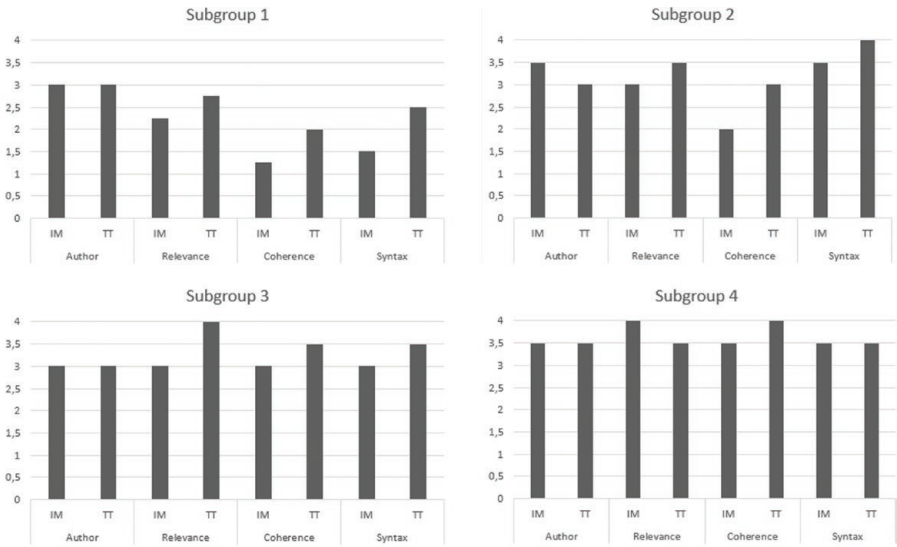


Figure 8.5. Improvement of writing performances of the sub-groups. Detailed vision in function of the subgroups/criteria.

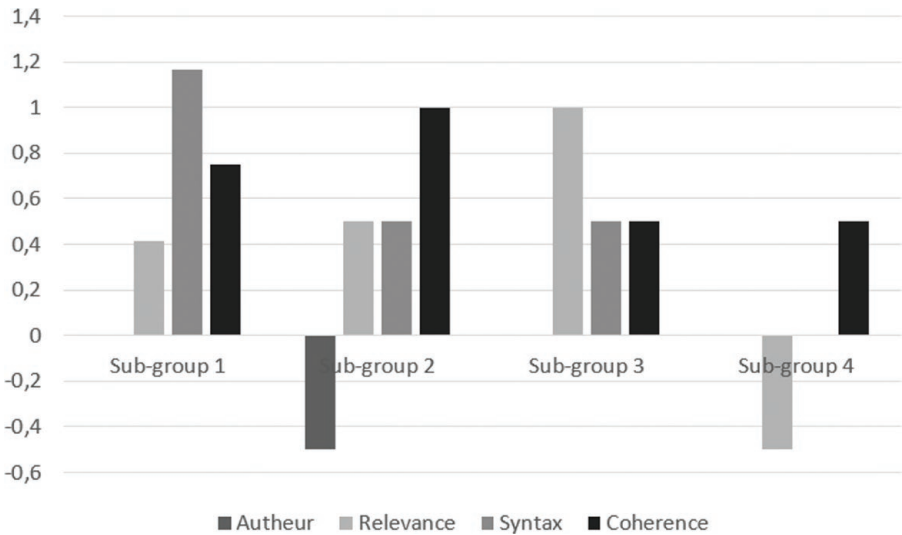


Figure 8.6. Points of progression of sub-group writing performances.

Pro presented progression regarding Relevance and Syntax from T₁ to T₂. She did not present major linguistic difficulties (Table 8.3) and she could construct clear sentences albeit these presented some syntax errors in T₁. She was able to understand the source text's content but, in her first text, she showed few skills to select key elements from the source texts. The individualized feedbacks addressed to Pro searched to promote the connection between words and sentences and to better target the central ideas from the texts. However, the scores concerning Author and Coherence did not move.

P6 displayed improvements in Coherence and Syntax criteria. The individualized feedback aimed to help him to polish his sentences construction (clarity and correct syntax) and connection words. The training also supported his skill for organizing ideas in relation to the task requirements. At T₂, P6 was able to construct more consistent texts, to elaborate more correct sentences, and to synthesize essential content. But Relevance and Author did not improve. P6 progressed in a remarkable measure on linguistic aspects by decreasing the number of errors in half.

Finally, P9 presented contrasted writing performances regarding the criteria given that his results did not move regarding Author and Relevance, but they improved concerning Coherence and Syntax.

Subgroup 2

These participants improved on Relevance, Syntax, and especially on Coherence (Figure 8.5), presenting the highest measure of progression on Coherence.

In particular, the texts produced by P8 presented evolutions concerning Relevance, Syntax and Coherence (Table 8.3). She was supported by the course in improving her sentences (clarity, use of adapted vocabulary and syntax) and choosing consistent connecting words. But, P8 decreased her results concerning Author.

Concerning P7, his writing performance did not move a lot between T₁ and T₂, however the scores obtained at the first written text revealed already high scores concerning Author and Syntax. He improved Coherence. Indeed, the individualized feedback insisted on the necessity to polish the connection between the sentences and to take into consideration all the key elements asked in the question.

The both participants did not present linguistic errors at final assessment when they had presented a certain number of these at initial assessment.

Subgroup 3

This subgroup improved notably in Relevance, Coherence and Syntax

(Figure 8.5) but the highest progression were obtained on the first criteria (Figure 8.6). P₁ and P₅ presented a moderate-high writing performance at T₁. Precisely, that they wrote with a relative facility and that probably their writing performances would be appropriate from the beginning of writing training. However, a progression was observed related with Relevance in the case of P₁ (Table 8.3). The individualized feedback aimed to teach him the necessity to be more precise during the selection of ideas to write, by suppressing not essential content, and to take into consideration the rhetorical aims of text.

Otherwise, the P₅'s writing performances were different. His overall writing performance was lowest than that of P₁, specifically with concerns to Syntax, Coherence and Relevance. P₅ put attention in following the strategies learnt and did not hesitate to ask trainer about specifics difficulties or hesitations. He progressed on several aspects (Relevance, Coherence and Syntax). The scores relative to linguistic mistakes did not move.

Subgroup 4

Finally, the subgroup 4 progressed on coherence solely (Figure 8.5).

P₃ and P₄ showed the highest writing performances at first assessment. We observed that their results remained high during the writing training. In particular, P₄ did not improve on any criterium. The individualized feedback aimed to help P₁₀ for helping him in improving syntax and reformulating. On the other hand, P₃ improved on Coherence. During the individualized feedbacks the trainer promoted the importance of polishing the coherence. However, the final written text (T₂) presented a little decrease on Relevance aspects.

Improvement in Academic Success and Link between Writing and Academic Performances

Figure 8.7 shows the participants' academic and writing performances. The academic success was compared from the assessments conducted by the teacher during the first weeks of the semester and the final average grade at the end of the semester. The mean score at the beginning was 4,9 (SD= 2,9) and that of the final was 6,9 (SD=3,8), their difference was significant ($p= 0,00$). Figure 8.7 shows that all students progressed in terms of grades, but this improvement was more visible in subgroup 4 relative to subgroups 1 and 2. In contrast, subgroup 4 showed the least improvement in the quality of the written production at the end of the writing training.

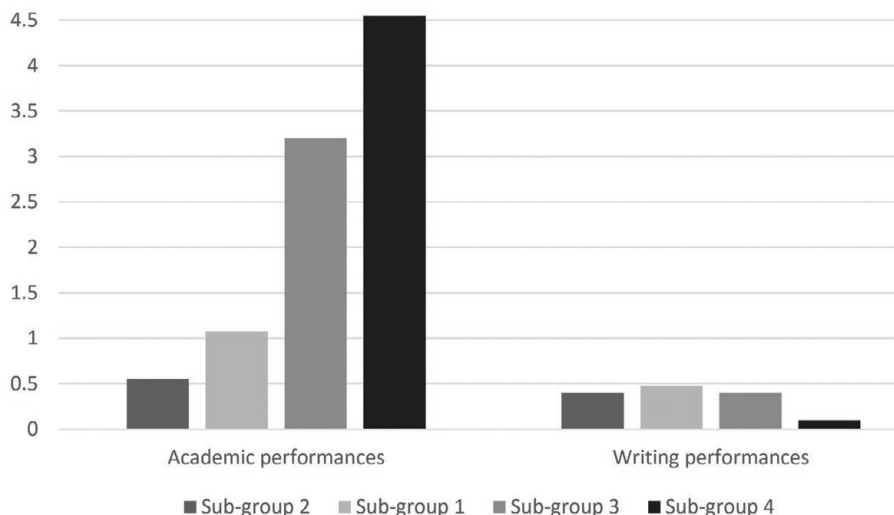


Figure 8.7. General view of the students' progression in writing performances and academic performances

This figure illustrates that the students presenting the lowest scores in writing at the beginning were the ones who obtained the highest progression on writing performances. This is a key result knowing that the writing course was specially designed with the purpose to help students with writing' difficulties.

Discussion

From the initial (IM) to final measurement (FM) data comparison, we note that the implemented writing program helped a majority of participants (4 out of 6) having completed these assessments to improve their writing performances. However, this evolution was not comparable through all criteria considered. Precisely, the participants were more numerous to increase their scores relating to Relevance and Syntax. But, concerning Coherence and Author, a certain part of participants decreased or they did not move. That means that the program did not affect the diverse students' writing skills in the same way. We consider that the personalized support and the practice of self-monitoring strategies could explain these variations. Indeed, given the short duration of program (6 hours), we prioritized at only some difficulties for each participant. This option could increase the participants' interest because they could perceive specific ways to use the acquired knowledge to surmount actual constraints they encountered in the discipline course. By bringing tools and advice based on analyzing

students' needs, we guided their attention to specific aims and to precise strategies to master. Moreover, the students were encouraged to practice self-monitoring through the utilization of key questions to address oneself concerning above all the clarity of their sentences and the understanding of assignment.

The effects of the writing program were also observed by considering the evolution of written text from initial measurement (IM) to the final version of text produced during the training (TT). Here also, a majority of participants enhanced their writing performances. Considering their global scores (Table 8.3), we observed that sub-groups 1 to 3 took advantage from the training although this evolution was remarkable mainly in the groups presenting the lowest results at the initial measurement. This finding is in line with the effects of the SRSD observed in elementary and secondary schools (Graham et al., 2012; Graham & Perin, 2007) and in HE (MacArthur & Philippakos, 2013) and we consider that the highly directed nature of training led the participants to gain confidence in their writing skills. Also, a particularity of the present training, that could precisely enable the progress of students with low-level, was the focus on linguistic support. Although this aspect does not seem essential in the SRSD perspective, we aimed to assist participants in improving delimited linguistic aspects to guide them in constructing a better attitude to writing. Providing them with specific aids on this point, they could experience a feeling of competence necessary to engage self-control of writing processes. That is probably why the members of Sub-group 1 and 2 decreased the quantity of linguistic errors as well as they improved their global writing performance global score.

Additionally, regarding the evolutions between IM and TT with respect to the criteria, we observed that, like to the results from IM to FM comparison, students moved essentially on Relevance and Syntax. Indeed except for Sub-group 4, all the other sub-groups improved these aspects (Figure 8.5). But, the criterium having enhanced through all the sub-groups was Coherence. We can conclude that to succeed on this criteria, self-reflection, strong guidance for self-regulating writing processes, and peer-assessment facilitate the improvement of texts during the time of training. However, this enhancement was not transferred later for producing texts in another conditions. Contrarily to the program condition, during final measurement (phase 4 of the research) students wrote alone without aids or peer-assessment. Certainly, in the case of the students presenting weakness, the ability to create coherent texts is harder to acquire and require, more than produce clear sentences and relevant content, social mediation. We can imagine

that training for a longer period can facilitate an extensive practice and develop a larger expertise on this complex aspect of writing.

With these results, the present research is coherent with findings from Ann Bassett Berry and Linda H. Mason (2012), MacArthur et al. (2015), and MacArthur and Philippakos (2013) regarding the effects of direct teaching of self-regulation strategies. However, the present study deepened on the contextualized nature of training. Different to the aforementioned programs, we connected more strongly the training with specific discipline content, and we proposed the program as complement to a specific course. Following the Litteracies universitaires perspective, we opted to strongly insert the writing training into a specific context. This particularity could facilitate the students' writing performances in two different ways: by encouraging the participants' interest to engage the training resources to achieve authentic aims in their learning agenda, and by developing writing in situated and cultural spaces delimited by the specific norms and disciplinary course teacher' expectations. The collaboration between researcher and teacher allowed us to integrate these cultural concerns from which we adapted the program. In order to increase the collaborative perspective of the research, it will be interesting to intensify the participation of the teacher in the training, through for example her/his feedback focused on the written texts. Additionally, this option would consolidate the sociocultural perspective in the present program.

We also aimed to know whether the students' improvement in their writing performances was included in the improvement of their academic performance. We observed no equivalence between students' writing performance and academic success. Although all participants improved their academic results, this change was stronger in students who had the highest grades at the beginning of the training. At the same time, these last students improved in the writing domain to a lesser degree than the other subgroups. We explain this gap, first, because the academic results combined many competencies in addition to writing skills, for example, the level of content knowledge and the capacity to manage stress in assessments. Certainly, the students with the weakest writing performances did not attain a sufficient level of autonomy at the end of the training that might have allowed them to improve their academic success more. Another reason could be the motivation to engage in the practice of writing strategies for improving the quality of their texts, notably in the case of students who had the best performances in this domain.

Despite the positive results of training on writing performances, we identified some methodological limitations. Concerning the measurement of the

participant skills during the sample constitution, it would be appropriate to measure their linguistic skills and their level of disciplinary knowledge. Thus, in addition to obtain a complete vision of linguistic abilities of students we could determine in what extent the students' thematic knowledge condition their writing performance. Another variation to integrate could concern the duration of the program. Probably, with a longer time for training, students could practice more to become really autonomous writers on all the skills necessary to succeed academic writing. Finally, in order to generalize the results from this program, new experimentations seem necessary with variate publics and different disciplinary courses.

Beyond to these limitations, two institutional aspects should be considered in order to replicate this kind of writing training. The personalized nature of the experimented training implies to organize collective sections integrating reduced number of participants. Yet, the French public universities had to generalize teaching in large groups where the students receive little guidance from their teacher. That was consequence of the massive arrival of first-year students which characterizes French universities as we mentioned in the introduction section. Workshop (namely *travaux pratiques*) or tutorials sessions (namely *travaux dirigés*) have been replaced by lectures (*cours magistraux*) addressed to large number of students. Despite these institutional constraints, an alternative could consist in integrating the writing training into the sessions for sustaining students in learning methods of academic work. These teaching courses (namely *methodologie du travail universitaire*) exists in France for reinforcing the first-year students' academic success. Even though these specific courses are not specially orientated to sustaining learning of academic writing, it could constitute a domain to explore.

Another institutional factor that would preclude the development of personalized support for writing within specific discipline courses is teacher training. We experienced that a collaborative work as we experimented requires the participation of teachers specialized in the discipline content. The question is how different experts in discipline content, didactics and cognitive processes of writing can collaborate to guide students for learning of academic writing. The collaboration between teacher specialists of disciplines and teacher specialists of writing is an interesting solution, but difficult to generalize. Thus, training discipline teachers to implement some of the proposed principles for teaching writing is a significant challenge knowing that training teachers to teach in higher education is a relatively recent practices in France. This collaborative approach could be interesting to explore through different cultural contexts and the results of these experiences could be shared by scholar networks.

Conclusions

Through the present research we aimed to analyze the results of implementing a training program in order to increase the quality of written texts produced by university French students. We based our work on two domains of research and perspectives. In the field of Litteracies universitaires, we developed a training program taking as main object the writers' attitude for reflecting on writing and individuals' writing processes, while positioning this individual process in regard to discipline cultures. In the field of writing training based on processes, this research deepened the role of metacognition in improving writing performances. With these considerations, the findings highlighted that teaching academic writing focused on metacognition contributes to enhance the quality of the texts, notably those of students who have writing difficulties. Thus, the present research reinforces the preceding findings about the effects of the explicit instruction of self-regulation for supporting the learning of writing in post-secondary. However, personalized and situated support for writing in HE, by observing the principles that we implemented, could be limited by institutional aspects (i.e., pedagogical and organizational constraints, etc.) and by the possibilities to integrate writing training into the disciplines. For attaining this point, we consider two essential elements that were to increase teaching training in HE and to work for a stronger collaboration between different experts in education.

Consequently, the academic writing could become a field where the Litteracies universitaires and the domain of research on teaching practices in HE participate together to a better comprehension of the learning and teaching academic writing and the students' academic success.

Glossary

Academic success: Academic success corresponds to the average grades for an entire academic semester or year. In France, the grades are set from 0 to 20. The closer the university student is to 20, the better his/her academic success.

Cognitive process of writing: From a cognitive point of view, the writing processes are categorized in different groups of intellectual mechanisms. The Hayes (2012) and Hayes and Flower (1986) contributions have allowed the development of a domain of research that targets describing the cognitive functioning of writing and the nature of the interaction between different categories of mental processes.

Direct instruction: Direct instruction refers to teachers' actions that precisely explicate the object and the method of leaning. In the writing domain, direct

instruction encompasses interventions for explicitly teaching strategies of writing in accord with clear aims. Thus, individuals learn not only the task's writing characteristics but also the suitable procedures for writing.

Metacognition: Metacognition is commonly considered to be cognition about cognition. According to Flavell (1979), it refers to knowledge about different variables that participate in cognitive functioning; for example, the characteristics of the task or the strategies. In addition, metacognition involves the regulation of cognitive processes. This bidimensional vision of metacognition coexists with other conceptualizations about the term self-regulated learning. Following Dinsmore et al. (2008), this last term constitutes the object of research that analyzes the cognitive and motivational processes implied in the self-management of learning processes.

Metacognitive knowledge: Metacognitive knowledge is individual pieces of knowledge about tasks, strategies, and the suitability between aims and strategies. This type of knowledge integrates the set of information that writers engage with at different stages of writing; for example, during planning. It is supposed that knowing their own writing methods, or the task's characteristics and its constraints, provides key information in order to regulate writing.

Self-regulation strategies: This category includes a set of mechanisms that allow regulating cognitive, emotional, motivational, behavioral, and environmental aspects when individuals do an action targeting specific writing goals (Zimmerman & Risemberg, 1997). Concerning the different activities related to writing (e.g., reading and understanding texts, taking notes, planning, rewriting, and producing words), the self-regulation strategies are responsible for the management of thoughts, emotions, intentions, perceptions, and behaviors related to writing in order to attain the writer's aims.

Sociocognitive perspective: This optic corresponds to a domain of research that analyzes the learning processes, taking into consideration an interactional point of view. Bandura's theoretical developments (2002) are at the foundations of this perspective following two main hypotheses. First, the environmental conditions and the social interactions affect the cognitive processes of learners. Second, the cognitive processes interact with motivational dimensions such as self-efficacy and the personal aims of the learner.

Sociocultural dimension of writing: This view refers to the development of a theoretical framework in the French context based on the consideration of the sociology of education and French didactic contributions. Here, the language abilities are considered to result from the interaction between the context and the individual attitudes. The context refers to the space as delimited by the norms that the scientific disciplines taught in higher education define for expressing, through the writing, the knowledge that they produce and their

evolution. Through this integration of norms and writing constraints specific to the academic disciplines, the sociocultural dimension emphasizes the influences the disciplines have on students' and teachers' practices related to writing.

Writing performance: Writing performance is a measure of the writer's efficiency at a specific writing task. Here, writing performance corresponds to the quality of the text. Several criteria illustrate the writing quality, such as the degree of correctness in the use of linguistic rules, the clarity of the idea's organization, or even the content's relevance. The norms that delimit what is a "good text" are supposed to reflect the cultural conventions and the teachers' expectations in specific contexts.

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Appendix

Initial production

Vous devez rédiger un texte de 10 à 15 lignes pour répondre à la question suivante:

D'après D. Cohen l'Homo Economicus ne parvient pas à atteindre le bonheur. Expliquez les causes de cette difficulté.

Vous vous appuyerez sur le texte de Daniel Cohen joint à cette consigne. Vous ne devez pas résumer la totalité du contenu du texte, mais plutôt cibler quelques éléments clés afin de répondre précisément à la question posée ci-dessus.

Vous essaieriez de respecter quelques consignes minimales : que le texte soit lisible, construire des phrases, utiliser une orthographe correcte et éviter les abréviations.

Vous disposez d'une heure maximum pour réaliser cet exercice (lecture et travail d'écriture compris)

Final production

Vous devez rédiger un texte de 10 à 15 lignes pour répondre à la question suivante:

D'après les études mentionnées par les auteurs du texte « Bénévolat et accès à l'emploi » quelles sont les deux principales motivations de l'engagement bénévole ? Expliquez-les.

Vous vous appuyerez sur le texte joint à cette consigne. Vous ne devez pas résumer la totalité du contenu du texte, mais plutôt cibler quelques éléments clés afin de répondre précisément à la question posée ci-dessus.

Vous essaieriez de respecter quelques consignes minimales : que le texte soit lisible, construire des phrases, utiliser une orthographe correcte et éviter les abréviations.

Vous disposez d'une heure maximum pour réaliser cet exercice (lecture et travail d'écriture compris)