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Cause or consequence? Framing and keying mediation in a French secondary classroom



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ABSTRACT

In this article, we draw on the commonalities between Vygotsky's emphasis on communication in the 'social situation of development' and Goffman's concepts of framing and keying to analyze a French teacher's mediation between grammatical concepts ciphered in abstract semiotic terms and students' intuitive knowledge of language in use. After describing the context of our broader ethnographic study on French language instruction with immigrant descendant youths in a Parisian secondary school, we examine three types of reframing moves identified in a turn-by-turn analysis of discourse recorded in four lessons on 'cause and consequence' expressions. We show how the teacher continually modulated the discursive texture of classroom mediation to help students navigate the complexity of schooled grammar, while also counting on their intuitive sense of whether the sentences they proposed 'made sense' logically.

1. Introduction

We locate our study within the deeply significant problem of understanding the fragile social sphere where teaching touches learning, that is, the locus where connections occur between what teachers say or do and how students respond. We understand teaching as a complex process, involving among other things the challenge to mediate between concepts ciphered in abstract semiotic terms and intuitive concepts that students use in practice. In this article, we approach this facet of teaching through an analysis of grammar lessons, which are a particularly salient and highly regulated preoccupation in French schooling. In particular, we explore this process of mediation by discussing one teacher's ways of transforming the discursive texture of her interaction with adolescent students as she seeks to bridge the formal concept of 'logical connectors', as defined by the official curriculum, and their practical knowledge of the workings of language in expressing causal relationships. Our purpose is to develop conceptual tools that serve to describe this process and to comprehend the ways in which teachers are able to sustain student participation in lessons that present such challenges.

Our analysis draws on two scholars, Lev Vygotsky and Erving Goffman, whose work we consider to be complementary for understanding conceptual learning through discursive social interaction. In his seminal book *Thinking and Speech*, Vygotsky saw the teaching of grammar as particularly difficult, noting that it involves dealing with students' intuitive grammatical knowledge in instructional activities in which language is marked by a double abstraction, *the absence of sound* and *the absence of an interlocutor* (Vygotsky, 1987, pp. 202–204). At the same time, he adds, while asked to work with such decontextualized instances of language, students are placed within a particular context, that of face-to-face verbal interaction in a classroom, with the teacher as their prime

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interlocutor. Furthermore, in first language (L1) courses, the medium and the object of instruction become intertwined. Exploring how teachers deal with this situation in real-time instruction is at the center of our research concerns.

In France, the teaching tradition presupposes strong differences between written and spoken language. The curriculum assumes that mastery of grammatical terminology and syntax leads to advanced skills in reading, writing and logical thinking. However, the students' working knowledge of language often discords with the formal language they face in written instructional tasks. In this article we examine a teacher who, while working within this tradition, skillfully mediated between the formal representation of logical connectors and students' intuitive ability to 'make sense' of proposed expressions.

In the following sections we first further clarify the general problem and specify the conceptual tools gathered from texts by both Vygotsky and Goffman for the analysis. We then outline our methodological approach, with attention to the context of our ethnographic fieldwork. We present results highlighting and exemplifying three ways of reframing classroom discourse we identified in lessons on cause and consequence. Finally, we discuss the relevance and limitations of our findings in relation to general issues.

2. The general problem: the issue of instruction in grammar

In *Thinking and Speech* Vygotsky noted that instruction in grammar would seem rather useless to the child, and therefore was "methodologically complex" (Vygotsky, 1987, p. 205). In his view, instruction in grammar would seem to be a paradigmatic case of the general problem of the relation between intuitive (or spontaneous) and scientific concepts. Vygotsky further addressed the specific relation between connectors and the development of logical thinking: "... the child's grammar develops before his logic. Over the entire extent of the school ages the child uses conjunctions correctly and adequately in spontaneous speech in expressing causal, temporal, adversative, conditional, and other dependencies. He is not, however, consciously aware of the semantic aspect of these conjunctions..." (1987, p. 251). This reference suggested linking the study of grammatical connectors and the problem of conceptual development, while providing a focus on a particular subset of data gathered during our study, a series of lessons on cause and consequence expressions in compound and complex sentences. The exercises that we analyze (below) involve the challenge students face when attempting to work simultaneously with these two variables—logical connectors and sentence structure—rather than resorting to the associative path of the "construction of a *complex*... based on connections among the individual elements that compose it as opposed to abstract logical connections" (Vygotsky, 1987, p. 136, our emphasis). Nevertheless, we were not directly exploring the adolescents' cognitive development, but rather attempting to understand teaching practices supporting this development.

A different facet of Vygotsky's work helped us reframe the problem. Rather than relating the development of logical thinking solely to an abstract sign system, Vygotsky increasingly turned his attention to the need to see "a unity of generalization and social interaction, a unity of thinking and communication" (1987, p. 49; cf. Minick, 1987, pp. 27–28). This perspective shifts the focus towards social interaction, and cautions against inferring thought processes directly from instruction in a system of abstract signs without addressing face-to-face mediation. Recent cultural-historical activity theory has also noted the need to integrate a finer examination of interactional data through the legacy of performative pragmatics and speech act theory (Robinson, 2005; Roth & Lee, 2007: 206–210).

While many valuable tools have been developed recently to study classroom discourse,¹ we chose in this case to capture the shifting nature of discursive strategies in social interaction with the aid of concepts first developed by Goffman. His understanding of the situation was compatible with Vygotsky's definition of "the social situation of development... [as] a system of relations between the child of a given age and social reality" (Vygotsky, 1998, p. 199). Resonating with Vygotsky's concern with experience, Goffman likewise noted the temporal complexity of any given situation: "...it is obvious that in most 'situations' many different things are happening simultaneously —things that are likely to have begun at different moments and may terminate dissynchronously" (1974, p. 5).

We consider that the overlapping of referential frames that Goffman identified in any given situation expands Vygotsky (1994)'s concern with children's differential understanding of the meaning of expressions and actions in relation both to their experience and to the social environment. As Daniels phrases it: "The social becomes individual not through a process of simple transmission. Individuals construct their own sense from socially available meanings" (2005, p. 11). It was evident from our observations that 'simple transmission' was insufficient to account for the relative success of teachers who were able to engage their students in lessons on highly abstract systems, as was our case. Yet the analytic description of a teacher's ability to build upon students' intuitive or practical knowledge while presenting abstract topics remained elusive. We therefore asked how this particular teacher was able to modulate her discourse in order to guide students in their identification and production of meaningful cause and consequence expressions.

3. Conceptual tools and their relevance to the study

In approaching the task, we heeded Vygotsky's critical observation regarding his own work: "We focused our attention on the sign (tool) to the detriment of the development of *the operation with the sign*" (Vygotsky, 2018, p. 275, our emphasis). Thus, we selected

¹ Many scholars, whom we cannot credit given the space, have furthered our understanding of verbal classroom interaction beyond insights based on the IRE/F pattern, by focusing on such facets as cadence and wait-time, revoicing and repair work, contextualization cues, mediation, silences, simultaneity, multimodality and dialogism.

moments of classroom interaction in which the ‘operation with the sign’ was most perceptible. Goffman's *Frame Analysis* (1974) suggested concepts that gave a handle on the empirical analysis of these exchanges. We found particularly useful the interplay between *framing* and *keying* for teasing out shifting modes of classroom interaction and understanding how teachers continually reshape or re-establish the discursive texture of their responses to students' attempts to navigate the formal presentation of schooled knowledge of grammar.

The concepts of *frame* and *key* have taken on different meanings in successive texts and contexts of use. Crediting Bateson, Goffman used *frame* as a tool for studying “the organization of experience”, assuming that “definitions of a situation are built up in accordance with principles of organization which govern events [...] and our subjective involvement in them.” (1974, p. 10–11). He defined *key* as “a central concept in frame analysis” and understood it as “a set of conventions by which a given activity, one already meaningful in terms of some primary framework, is transformed into something patterned on this activity but seen by the participants to be something quite else (1974, 43–44, our emphasis). While Goffman further unraveled and specified these concepts throughout his work, these initial definitions became our starting point for finding evidence of a particular dynamic in classroom interaction. Many frames of experience come into play in any given situation, however in this article we considered as a ‘primary frame’ the principles and conventions organizing teaching activities in a given classroom, while noting that these are not autonomous, but rather respond to external constraints and engage participants' experience differently.

We share the view that primary frames should be seen under constant transformation and layering (Robinson, 2005, p. 113–114). Goffman often invoked *transformations* in his analyses by adopting a processual view of interaction, in which actors are seen as constantly following certain ‘cues’ to keep in step with each other's shifting frames. These moves involve keying in the sense of “transporting” or “transcribing” meanings (Goffman, 1974, p. 44). In our case, we could observe how the teacher ‘transcribed’ expressions taken from the written versions of the textbook grammar lessons in order to render them more accessible to students' intuitive sense of the logic of everyday expressions. This perspective serves more generally to follow the dialectic between the schooled frame of grammar instruction and alternate frames that teachers use to connect the lessons to the students' experience.

Goffman's concept of *footing*, and specifically of the three possible roles of speakers as author, principal or animator, was also decisive in our analysis of classroom discourse. Our observation of verbal interaction during the lessons gained much from an awareness that the animator is the “individual active in the utterance production”, though not necessarily its “author”. The speaker may also become the “principal”, that is “someone who is committed to the words they say” (Goffman, 1981, p. 144).

Language use in classrooms further involves the interplay between the oral and the written modes. Vygotsky stressed a parallel yet interdependent development of speech and written language, where reciprocal movement was as important as divergence (Vygotsky, 1997, pp. 131–148). It was thus critical to move beyond the arbitrary oral/literate divide and approach the complexities of an “oral-written matrix” (Cook-Gumperz & Keller-Cohen, 1993; Finnegan, 2006) as ongoing activities in classrooms follow their course through continual shifts among channels, modes, or registers.² In the grammar lessons, this reciprocal movement is salient. As Vygotsky phrased it: “Written speech is speech-monologue. It is a *conversation with a white sheet of paper*, with an imaginary or conceptualized interlocutor. Still, like oral speech, it is a conversational situation.” (1987:202–203, our emphasis). Teacher mediation envelops the monological written speech and renders it conversational within the classroom situation.

Social situations are framed, according to Goffman, within an “interaction order”, or “a domain of activity”, which involves both norms and constraints that are not determinant, but rather are subject to multiple “risks and enablements” (1983, p. 4). A classroom is just such an interaction order. Teaching in elementary and secondary schools requires calling on a group of youths—who are compelled to remain in school by law and custom, and not by choice—to undertake an academic task which is not of their own making and make it their own (A-M Chartier, 2007). Vygotsky recognized this as “one of the most difficult tasks of the pedagogue” (Vygotsky, 1995, p. 36). As noted, teaching grammar in a French secondary school moreover involves connecting with students' knowledge of language in use, while at the same time rendering them able to pass exams that may determine their future trajectories. Success requires a considerable degree of expertise; among other things, teachers must necessarily adapt the pre-programmed contents to the formidable material and temporal constraints they face. They carry out this task in remarkably diverse ways, working with the resources at hand and the knowledge gathered through experience with a combination of pedagogical traditions.

4. Methodology

4.1. The ethnographic study and its context

Research on social situations, as understood by Vygotsky and Goffman, requires intensive on-site observation and detailed analysis of ‘operations with the sign’ within a given context. Understanding the situational dimension also involves going beyond observable actions and utterances. Following Daniels (2005, p. 14), “If the social in teaching and learning is constrained to a view of particular teaching technologies and procedures, then the analysis of schooling is both truncated and partial.” Thus, analyses of

² This perspective questions dichotomous views, such as opposing oral-practical and written-schooled language (Lahire, 1993, p. 52; see Rockwell & Galvão, 2012), and suggests rather a search for the ways in which reflection on spoken language interacts with a growing awareness of the logic of written French language (cf. Beaumanoir-Secq, 2013).

classroom interaction must remain steeped in ethnographic familiarity with proximal and distal ecological circumstances that influence the participants' actions and discourse (Erickson, 2004). This challenge also involves recovering the temporal dimension of any interactional process observed in classrooms by reconstructing the broader instructional sequence and context of particular exchanges (cf Mercer, 2008).

Our methodological approach is ethnographic, which we specify in this case as conducting theoretically informed non-participant studies in which researchers directly carry out fieldwork in one or more chosen sites with sufficient time to collect data on recurring patterns of social practice and gather relevant contextual information from multiple sources. Sets of collected data can then be analyzed from various perspectives, to address different questions. Although ethnographic studies are not replicable, they are subject to comparative meta-analyses that account for contextual differences (Rockwell & Anderson-Levitt, 2017). We (Joigneaux and Rockwell) had each previously conducted separate research projects in schools in the same site, a Parisian neighborhood long inhabited by families who had immigrated from the Maghreb and French West African nations, and we were thus familiar with the sociocultural context.³

In this study, we worked together to follow French language courses taught by three teachers during the final two months of secondary schooling (3^{ème}, equivalent to grade 9) in a *collège* in the same neighborhood. The school was ranked as low-achieving and targeted for priority programs, with a population classed as “*issue de l’immigration*”, that is “of immigrant descent”, a euphemism that covers several generations, including those born in France. Students were all fluent speakers of French by the time they were in secondary school, and we did not detect any ‘dialect correction’ practices, such as are often reported in studies on teaching minority populations elsewhere. The social context of the neighborhood strongly influenced the students' experience. The practical knowledge gained through family and communal multilingual language practices, as well as years of dealing (as immigrant-descent youths) with the demands and barriers of formal schooling and the diverse modes and manners of each teacher, influenced many of their responses in the classroom.

Consideration of the ecology of schooling in this case also required acquaintance with French educational history and policies. The primary frame was conditioned by the particular tradition of secondary instruction in the French language, which, although inflected through multiple reforms, has molded the codification of grammar present in textbook and exam content since the mid nineteenth century (Chervel, 2006). Significantly, instruction in French, particularly in its written form, is strongly associated with mastery of logical thinking, an ideological legacy of the language's status in philosophical and diplomatic realms since the 17th century (Rockwell, 2012). French teachers, including those observed, are well trained in this tradition, although in practice they transform or resist its mandates in many ways.

Classroom dynamics in France were also marked by the import of the *collège*, the highest level of compulsory schooling at the time, which concludes with the *brevet*, the official exam produced by each district or *académie* (in this case Paris) to certify students' successful completion. This test requires, among other things, a degree of mastery of French normative grammar and is linked to placement procedures for the segmented third tier of French schooling (the *lycée* or vocational alternatives). The lessons we observed occurred during the emotionally charged end-of-cycle period (May and June), and were explicitly geared towards success on the *brevet* exam. Due to this context, the teachers we observed had little choice in terms of content, although each stressed different aspects during the final lessons.

The material conditions of the secondary school included the temporal constraints on teaching (the 50-min hour) and the strict institutional rules governing low-ranking schools in an inner-city immigrant neighborhood. The school had a problematic disciplinary history, yet during the period (2010) it had an exceptional principal, was well-organized and relatively well-equipped. Groups were small (20 to 25 students) and classes were held in ample rooms with traditional rows of individual desks facing the whiteboard and teacher. Although there were sufficient textbooks, teachers generally handed out photocopied worksheets and summaries, which students kept in loose-leaf binders. Digital technologies were not used in these classes at the time.

In all, we observed 32 fifty-minute lessons in four groups, two of which were taught by the same teacher, whom we call Anne. We took ample notes and audio-recorded nearly 20h of classroom discourse and photographed the year-long work collected in eleven students' loose-leaf binders. Video recording was not authorized; thus, the gestural dimension of interaction is missing in our recorded data though occasionally captured in our notes. The three French language teachers observed followed the same textbook based on the official French language program, yet their practices and priorities differed greatly. Together they had twice prepared a practice *brevet blanc*, one administered in February and another in May, in which they incorporated the sort of exercises the official *brevet* had included in previous years: the ever-present *dictée* (dictation) and exercises based on literary texts and designed to measure both reading comprehension and the identification of lexical and syntactic elements.

³ Dr. Joigneaux had done fieldwork in a local preschool for his doctoral dissertation, defended at the University of Paris St. Denis (Joigneaux, 2009); as professor at the University of Paris-Est Creteil he subsequently worked on Vygotskian theory in relation to language teaching practices. Dr. Rockwell, a full professor in Mexico City, had done research five years earlier in one of the local elementary schools (Rockwell, 2012) and was following ten focal students from the previous study through the final year of the secondary school (*collège*). Although we do not report on the individual students in this article, their experience was relevant for the broader study.

4.2. Analysis of the ‘cause and consequence’ lessons

Given the problem chosen for this article, we focus on Anne, the senior language teacher at the school, a native French speaker with high qualifications (*agrégation*) who had a positive reputation among students and colleagues; she was in charge of groups 3C and 3D. We asked how Anne was able to effectively mediate between the abstract grammatical concepts and the intuitive use of logical relations in everyday practical language of her students, as the other two teachers we observed had failed to address the problem and had concentrated on other topics, such as argumentation and non-literary genres. Anne's experience and disposition as a teacher who had chosen to work in this challenging context contributed to the quality of her teaching. She used the margins generally afforded to French teachers to mobilize various resources and resist the administrative constraints. This led her to adjust her interaction with the group and with particular students, depending on how she perceived their difficulties in engaging with the academic task on hand.

4.2.1. Documentary evidence of year-long work on the topic of connectors

Ethnographic analyses of classroom discourse involve a multi-scale approach. While a basic unit of analysis is the speech event, particular sequences should also be framed in the context of the teacher's general strategy. Anne's work on the topic of connectors had progressed for several months before we began our observations. Examination of the textbook and of the worksheets and tests (*contrôles*) in the loose-leaf binders from 3C and 3D allowed us to reconstruct the year-long progression of the course. Students had done considerable work on word classes and functions as well as on independent and subordinate clauses. Following a strong tradition in French pedagogy, many exercises and questions regarding syntax and word classes were based on extracts from literary works.

In February, Anne had introduced the topic of compound and complex sentences, their independent, principal and subordinate clauses and the functions of subordinate clauses (*propositions* in French). The course textbook⁴ lessons on these contents provided complicated tables and exercises, including long lists of terms used to connect clauses, which were classified as relative, temporal, conditional and logical. The logical connectors included among other categories those related to cause and consequence, which were further classified according to word class (Fig. 1). The 28 terms listed in this table include some that are quite common in everyday verbal communication (*car, parce que, donc*), while most are more likely to appear in formal written French (*grâce à, puisque, de sorte que, au point que*).

At that time, Anne had proposed a double-entry table with a few logical connectors as an alternative scheme. It had been copied by some students from the whiteboard (Fig. 2). This table reflected her early concern with simplifying the textbook version while foregrounding the cognitive task of dealing simultaneously with the two variables that students were 'to keep in mind': syntactic structure and cause and consequence connectors.

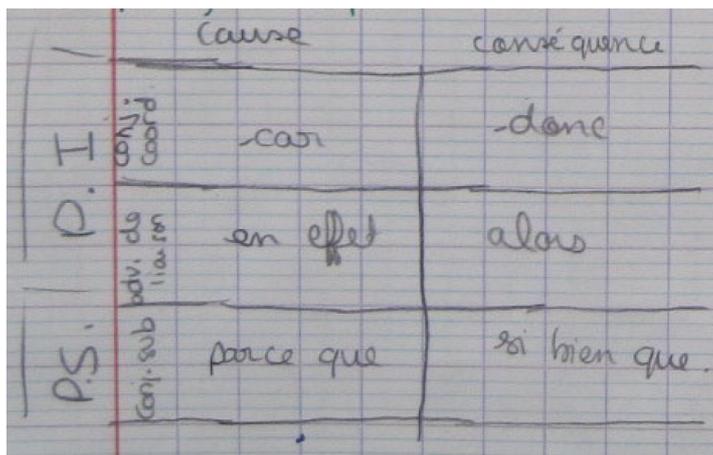
Vertically, the three rows correspond to simple, compound and complex sentences with the grammatical class of the words (preposition, conjunction, adverb) to be used. Horizontally, the two columns correspond to the distinction between cause and consequence connectors. Anne placed only one or two terms in each cell; although she did not mark the distinction, these included terms current in everyday talk, such as *parce que* (because), *car* (as), *donc* (so), *alors* (thus) and two more literary ones, *en effet* (since) and *bien que* (such that). Students were to copy this table in their notebooks and have it on hand.

During the following months, Anne had first concentrated on connectors expressing cause, while also covering other topics in the program. A central concern had been to explain that while in everyday speech the logical relation often remained implicit, and could be understood even with two juxtaposed phrases, written language required making the connection explicit through the use certain words.

VALEURS	CONNECTEURS LOGIQUES
La cause (→ CHAPITRE 14)	à cause de, en raison de, par, pour, grâce à, du fait de, faute de... (prépositions et locutions) – en effet, en fait (locutions adverbiales) – car (conj. de coordination) – parce que, puisque, étant donné que, sachant que, vu que, du fait que, comme, sous prétexte que... (conj. de subordination)
La conséquence (→ CHAPITRE 14)	c'est pourquoi, par conséquent... (locutions adverbiales) – donc, et (conj. de coordination) – de sorte que, si bien que, si... que, tant... que, tellement... que, au point que... (conj. de subordination)

Fig. 1. Table of logical connectors in the textbook, *L'atelier du langage*, p. 41.

⁴ The textbook used was Beltrando, B. et al. (2008). *L'atelier du langage: Brevet. 3e*. Paris: Hatier.



	cause	consequence
Coordinating conjunction	as	so
Coordinating adverb	as a result	thus
Subordinating conjunction	because	such that

Fig. 2. Table copied in a notebook page by Lilia, 3D, February 18, with our translation.

4.2.2. Analysis of classroom interaction data on the topic

When we began our fieldwork in May, Anne had recently shifted to clauses expressing consequence and the corresponding connectors. She simplified the textbook lessons by giving students copies of her own summaries (*fiches*) on cause and consequence, which were filed in their loose-ring binders (Fig. 3).

In mid-May, students presented the second practice brevet and the results showed that grammar items had been particularly difficult. Anne concentrated the review on sentence structure and various connectors with her two groups (3C and 3D). We identified references to these topics within the nine sessions that we recorded with these groups. Several were only brief explanations of examples found in the literary texts they were reading, such as explaining the difference between *puisque*, used in the text, and *parce que*. One class involved reviewing the students' results on the brevet blanc, particularly the mistakes many had made in identifying subordinate clauses in the following sentence, also taken from a text included in the exam: "*Et comme il n'en trouvait pas la moindre trace, il se fâchait contre son jardinier, qu'il finissait par chasser*" (And as he did not find the least trace, he became angry with his gardener, whom he ended up firing). After they had identified the subordinate clauses, Anne reminded students of the trick of substituting 'comme' (as) with 'parce que' (because), to see if the term denoted cause in a given case.

From our recorded observations of these review lessons, we chose four sequences of continuous verbal interaction between the teacher and the students on the topic of logical connectors, lasting between 20 and 40 min each. The exercises were designed to master the identification and production of cause and consequence connectors in coordinate and subordinate clauses. We analyzed these sequences to identify the shifting frames of reference and the cues Anne used to guide students towards reflection on the underlying logic of the sentences they proposed.

It is not easy to report ethnographic studies of teaching in the space of an article. Extracts from verbal transcripts are poor representations of the complex interactions that hold together a lesson. In the lessons we analyzed, shifts in the primary frame conditioned by the constraints of the official syllabus and probable exam questions were constantly emerging. For this article, we selected key exchanges that illustrate the different frames in play. We discuss four short turn-by-turn extracts from the larger corpus of sequences to convey how Anne modulated or stabilized these frames with specific cues.

Fiche synthèse : L'EXPRESSION DE LA CONSEQUENCE

I. L'expression *IMPLICITE* de la conséquence

A. Propositions indépendantes juxtaposées : *Il a trop bu : il est ivre.*

B. Proposition principale + prop. sub. relative : *Tim bouscula Tom, qui tomba.*

II. L'expression *EXPLICITE* de la conséquence

A. En phrase simple : on utilise une locution prépositive :

1. la préposition pour en corrélation avec :

a- les adverbes trop ou assez : *Il est trop jeune pour voyager seul.*

b- les verbes il faut ou il suffit : *Il faut le voir pour le croire.*

2. la locution au point de : *Il est naïf au point de croire tout ce qu'on lui dit.*

B. En phrase complexe, par coordination :

1. la conjonction de coordination donc (qui ne se place pas nécessairement au début de la proposition mais peut se placer après le verbe) *Il est malade, il ne viendra donc pas.*

2. un adverbe de liaison : en conséquence, par conséquent, ainsi, aussi, dès lors, c'est pourquoi : *Il est malade, par conséquent il ne pourra venir vous voir.*

C. En phrase complexe, par subordination.

On utilise une conjonction de subordination. Il faut distinguer :

1. l'expression non intense de la csqce : si bien que, de sorte que + indicatif
Il est malade si bien qu'il ne viendra pas nous voir.

2. l'expression intense de la csqce :

a- au point que : *Il est naïf au point qu'il croit tout ce qu'on lui dit.*

b- que en corrélation avec :

- les adverbes si, tant ou tellement :
Il est si naïf qu'il croit tout ce qu'on lui dit.

- le déterminant tant de : *Il a tant de sensibilité qu'un rien le blesse.*

- l'adjectif tel(le) : *Il a une telle sensibilité qu'un rien le blesse.*

RQ : * que est suivi de l'indicatif si la principale est affirmative, du subjonctif si elle est interrogative ou négative :
Est-il si malade qu'il faille appeler le médecin?

* ne confondez pas la construction si...que exprimant la conséquence intense et celle exprimant la comparaison :
Est-il si bête qu'on le dit?

3. l'expression de la csqce liée à l'intensité du fait principal :

On utilise la conjonction pour que en corrélation avec :

- les adverbes assez ou trop : *Il est trop cupide pour que je lui fasse confiance.*

- les verbes il faut que ou il suffit que :
Il suffit que je dise qqc pour qu'il fasse le contraire.

RQ : pour que est alors suivi du subjonctif.

Fig. 3. A summary sheet on the “The expression of consequence” handed out in May.

5. Results: reframing moves and teacher mediation of classroom conversation

Anne's manner of interacting with the class was firmly anchored in a relationship of trust built up over the school year, a "classroom culture", as some teachers were wont to say, that was distinct from those observed in other classes. Her bonding of the affective and intellectual dimensions of learning allowed her to keep students engaged in rather difficult academic tasks. It reflected Goffman's comment that in social interaction it seems necessary "... to put trust in those about one. Not doing so, one could hardly get on with the business at hand" (Goffman, 1983, p. 6).

While conscious of the students' need to master the task, Anne was also intent on having students understand the logic behind their own everyday use of the more common connectors. She avoided asking for production of the grammatical terms associated with the textbook lists, although she did assume that they had learned the difference between a preposition and a conjunction.⁵ She also considered that they could identify coordinate and subordinate clauses, a topic, as she reminded them, that they had covered extensively in previous lessons, even years.

The review exercises followed a basic pattern used in the textbook: students were to connect two clauses (*propositions*) in the proper sequence to form either compound or complex sentences with a particular connector expressing either cause or consequence. She departed from the textbook examples in two ways: first by proposing or eliciting only connectors that were common in everyday speech, while avoiding those that are found in more literary French, and second by introducing propositions situated in the current school context of the students, rather than only using the more decontextualized examples of the textbook.

Anne would generally ask for written responses to the basic exercise and would closely monitor their individual solutions, either by asking them to read their responses aloud, or by walking through aisles to observe their work. This allowed her to follow in real time what each one had been able to master as well as catch mistakes that even her better students made. She voiced audible comments on the students' individual work when noting their uneven grasp of the specific semiotic tool involved in each exercise. She would continually ask students to "correct themselves" when she noted an error.

5.1. Reframing 1. The reversal of clauses and intuitive logical expressions

During the review period, certain students were still disturbed by the sort of questions posed. The expression of logical relations used in everyday talk seemed distant from the words they were expected to master and deliberately produce in class. The distinction between cause and consequence relations posed additional difficulties, as it often required inverting the clauses presented to them. For example, in group 3D Anne asked Ahmed to connect orally two clauses: 'I bought the book' and 'I liked it'. Ahmed first proposed "I bought the book because (*parce que*) I liked it". Anne replied that his solution expressed cause, yet that she had requested consequence. In his successive attempts, Ahmed first changed the second clause to "it interested me", and then tried two other connectors, 'since' (*puisque*) and 'as' (*comme*) perhaps recalling from memory the lists on his summary sheet. Anne continued, insisting that he was still expressing cause, and asking him to correct himself by using "his famous *donc* (so)", as he had often done before. He reacted and quickly produced the inversion needed to express consequence with 'so' (*donc*): "It interested me, so I bought this book" (*Il m'intéresse, donc j'ai acheté ce livre*). This was an instance of both choosing the correct connector and reversing the original order of the clauses, rather than just using the associative process of 'thinking by complex' to choose a new connector from the list.

In the other group (3C), Anne asked students to join these two phrases: 'I passed my test' and 'I reviewed well'. Several students produced acceptable causal connectors, such as "I passed my test because I reviewed well" (*J'ai réussi mon contrôle parce que j'ai beaucoup révisé*). Then she asked them to produce other sentences using a term for consequence. Again the exercise involved managing the two variables at the same time, the order of the clauses and the connector to join them, and some students faced difficulties. Anne walked through the aisles observing their individual solutions, often only saying "that's fine", and at times stopping to take up a student's response as an example for the whole class to reflect upon, as in the following example.

Extract 1: Passing the test	3C May 21
1 A: Ah, Bengali, bravo! Bengali tombe dans le piège [...] et ce piège est merveilleux car il va nous permettre de se rendre compte qu'il faut être vigilant... [Elle écrit au tableau la phrase] Bengali m'a dit ça: J'ai réussi mon contrôle, donc j'ai beaucoup révisé... pourquoi ça ne colle pas ?	A: Ah... Bengali, bravo! Bengali has fallen into the trap [...] and this trap is marvelous as it lets us see why we must be so careful (she writes the sentence on the board for all to see). Bengali has said this: I have passed my test, so I have reviewed a lot... why doesn't that work?
2 (Des élèves donnent des réponses en même temps)	(Several students speak at once)
3 A: (à tout la classe): Ça veut dire ... j'ai réussi mon contrôle, et donc je révise! [Petits rires]. C'est exactement le piège dont je vous avais parlé, lié à l'inversion d'un rapport logique, car vous avez une cause à la place d'une conséquence [...]. Là, c'est sur le plan chronologique que ça ne peut pas fonctionner. Vous ne pouvez pas réviser après le contrôle quand même! Donc Bengali, tu te corriges tout seul [...] Vas-y, je t'écoute Bengali.	A (to the whole class): This means... I passed my text, and so I review! [slight laughter]. This is exactly the trap I told you about, regarding the inversion of a logical relation, as you have a cause in place of a consequence [...]. Even chronologically, it cannot work. You can't review after the test, anyway!
4 Bengali: J'ai beaucoup révisé, donc j'ai réussi mon contrôle.	So, Bengali, correct it yourself [...] Go on, I'm listening, Bengali. Bengali: I reviewed well, so I passed my test.

⁵ French students normally memorize conjunctions with the play on words: *mais ou et donc ornica*.

In such sequences Anne altered the frame of interaction, first by creating examples (not in the textbook) related to the situation students were actually facing, and second by warning students of the trap (*piège*) of not attending to the order of the clauses as well as the connectors used. The slight laughter (line 3) perhaps is a sign that other students caught the absurdity of ‘reviewing after the test’. In reframing the exercises, she oriented both Ahmed and Bengali to correct themselves by applying their intuitive awareness of language use to produce sentences that made both logical and chronological sense, and both were able to do so. Anne elicited only the most common connector, *donc*, rather than asking them to choose from the lengthy list of words suggested in the textbook. By reframing the written schemes and eliciting verbal responses, Anne worked constantly with students’ awareness of the underlying logical sense expressed in connecting the clauses. Through this practice, she was effectively avoiding the all too frequent effect of “direct instruction [...] It substitutes the learning of dead and empty verbal schemes for the mastery of living knowledge” (Vygotsky, 1987, 170).

5.2. Reframing 2: the use of personal pronouns as reframing cues

Among the reframing cues that Anne used, shifting personal pronouns was particularly interesting. In the following extract, typical of several exchanges in which Anne noted something to point out, students had been asked to work with the two phrases taken from the textbook, ‘*j’ai passé deux semaines en Angleterre cet été*’ and ‘*j’ai pu perfectionner mon anglais*’. They were to join them in the four possible ways: cause and consequence with coordinated clauses and cause and consequence in a subordinate clause. Although the phrases begin with I (*je*), the pronoun is not a deictic; that is, when read by a student, *je* does not refer to the student herself, but rather functions as a generic pronoun referring to a ‘fictional speaker’ (Irvine, 1996).

Extract 2: "A visit to England"	3D May 20
1 A (<i>auprès de Youssra, après avoir regardé ce qu'elle a fait</i>): Alors il y a quelque chose... Youssra, lis- nous la phrase un a. ... écoutez-tous! ... (il y a bruit) Non, non... on écoute.(inaudible)	A (near Youssra, after seeing what she had written): Now here's something... Youssra, read us your sentence one a. Listen everyone!!... (noise). No, no... we (<i>on</i>) listen. (inaudible)
2 Youssra lit: <i>J'ai passé deux semaines en Angleterre cet été car j'ai pu perfectionner mon anglais.</i>	Youssra reads: I spent two weeks in England this summer as I was able to perfect my English.
3 A: Vous êtes d'accord?	A: Do you all agree?
4 Des élèves: Non...	Several students: No...
5 Youssra se corrige: ... parce que j'ai pu perfectionner mon anglais.	Youssra offers a correction: ...because I was able to perfect my English.
6 A: C'est parce que tu as pu perfectionner ton anglais que tu es allé en Angleterre? Écoute ce que tu dis, Youssra!	A: Is it because you were able to perfect your English that you went to England?... Listen to what you are saying, Youssra!
7 Nassim (interrompt): ça veut dire pour aller au Japon, il faut comprendre le chinois? (Il y a des autres étudiants qui parlent sur le sujet, inaudibles)	Nassim (interrupts): Does that mean that to go to Japan, it is necessary to understand Chinese? (there are other students speaking on the topic, undistinguishable in the audio)
8 A: Attendez, aller au Japon pour parler chinois, en l'occurrence, peut-être le japonais, mais le chinois... (reprenant l'échange antérieur) Youssra?	A: Hey, wait... going to Japan to speak Chinese... in that case, maybe Japanese, but Chinese.... (returning to the previous exchange) Youssra?
9 Un élève ajoute: Ils parlent pas la même langue, le japonais...(inaudible)	Another student adds: They don't speak the same language, the Japanese... (inaudible)
10 A: Non, eh eh... (en se tournant vers Youssra) Youssra, est-ce que tu entends ce que tu dis?	A: No, eh, eh... (returning to Youssra) Youssra, are you listening to what you are saying?
11 Youssra: Oui.	Youssra: Yes.
12 A: Alors corrige-toi tout seul, ça va donner quoi ? ... (pause)	A: So, now correct it yourself , all alone, it becomes what? ... (pause)
13 Youssra: J'ai pu perfectionner mon anglais car j'ai passé deux semaines en Angleterre.	Youssra: I was able to perfect my English as I spent two weeks in England.
14 A (à tous): Voilà. C'est en allant en Angleterre que... (elle ne finit pas la phrase, pour continuer avec autre étudiant).	A (to all): So see. It is by going to England that... (she leaves it incomplete and continues with another student).

This passage shows interesting cues that transcribe the interaction, shifting the frame from attention to the abstract written examples to a face-to-face conversational mode with an individual student, yet addressing all of the students and asking them to listen. The exercise is framed in the textbook as a decontextualized first-person statement with the generic I (*je*), yet in turn 1 Anne used the second person ‘you’ (*lis*) and the first person plural ‘us’ (*nous*) as a request in real time: “Youssra, read us your sentence”. She then used the imperative plural ‘you’ (*écoutez*) to ask the class to listen and then added: “*on écoute*”, changing to an inclusive command, where *on* emphatically signals ‘we shall all listen’. In turn 3, she used the plural you (*vous*) again to ask whether the group agreed.

After Youssra's two failed attempts, Anne (turn 6) shifted the frame from the abstract textbook ‘I’ towards a deictic pronoun, addressing Youssra in the second person, you (*tu*) in the sentence: “Is it because **you** were able to perfect **your** English that **you** went to England?... Listen to what **you** are saying, Youssra!” This shift sparks a side conversation among several students, which draws in the teacher as well. Anne counters Nassim's question (turn 7), “Does that mean that to go to Japan one has to understand Chinese?” Although the statement had little to do with the logical relationship she was seeking to elicit (it is a conditional clause, not requiring a logical connector), she momentarily breaks frame (turn 8), enters the conversation with those students and attends to the content, remarking that “in that case, you would need Japanese, not Chinese”.

Anne then hushes further talk on the matter by other students and returns to her previous focus (turns 10–13), asking Youssra directly (*tu*) whether she has indeed listened to herself, and then pressing her to revise the sentence. Youssra is able to do so and, in this

case, although she is, in Goffman's terms, the “animator” of the required sentence using **I (je)**, Youssra has ‘listened’ to herself as “principal”, that is as though she herself had gone to England to perfect her English. It is then that she connects the two clauses ‘logically’. Anne then reframes the example (turn 14), shifting back to an impersonal statement with no pronoun (So see. It is by going to England...), to return to the generic meaning of the sentence for the whole class; she has made her point. The pattern of asking students to listen to what they have written in order to recognize errors and offer corrections themselves is recurrent in the lessons observed.

It is interesting that as interaction continued, about three minutes later, Anne asked students to join the same two clauses with a connector expressing “consequence in a subordinate clause”.

Extract 3. Does everyone agree?	3D May 20
<p>1 A: <i>Tout le monde est d'accord jusque-là? Alors maintenant, on passe à l'expression de la conséquence. C'est-à-dire qu'on va exprimer le même rapport entre les deux propositions, mais on va expliciter entre les deux la conséquence au lieu de la cause. C'est la même chose, inversé. Je vais donc utiliser les outils dont je dispose pour exprimer la conséquence par coordination. Pour l'instant, on n'utilise pas des adverbes de liaison, on utilise toujours la conjonction de coordination, donc ça va être donc. Qui essaie, en faisant toutes les modifications absolument nécessaires? (elle regarde autour et choisit) ... Youssra...</i></p>	<p>A: Does everyone agree, up to now? Then now, we go on to the expression of consequence. That is, we will express the same relation between the two propositions, but by explicitly expressing the consequence instead of the cause. It is the same thing, reversed. So, I will use the tools which I have to express consequence by coordination. For now, we will not use adverbs, only the coordinating conjunction, so that will be 'so' (<i>donc</i>). Who will try to make only the necessary changes? (she looks around and chooses) ... Youssra...</p>
<p>2 Youssra: <i>J'ai passé deux semaines en Angleterre cet été, donc j'ai pu perfectionner mon anglais.</i></p>	<p>Youssra: I spent two weeks in England this summer, so I was able to perfect my English.</p>
<p>3 A: <i>Ah Voilà! Tu as passé deux semaines en Angleterre cet été, donc j'ai pu perfectionner mon anglais.</i></p>	<p>A: Ah, there, see! You spent two weeks in England this summer, so I was able to perfect my English.</p>

This second episode shows similar keying through the change of pronouns, in two instances. In the first turn, Anne used **je**, not referring to herself but rather placing herself in the students' position, that is voicing what the students should say to themselves: “I will use the tools I have at my disposition to express consequence by coordination”. Then she used an impersonal **on** (turn 1), here meaning **we**: ‘For now, we will not use the connecting adverbs, we will continue to use coordinating conjunction, so it will be *donc*’. She opened the floor to all and chose Youssra, who proved she could construct the sentence with *donc* (turn 2). Significantly, this case did not require reversal of the clauses. In turn 3, Anne revoiced the answer with a strange construction, combining the personal **tu** in the first clause, seemingly in recognition of Youssra's success in finding the logical way to join the clauses with the use of *donc*, and then shifting again to the impersonal **je** of the textbook example for the subordinate clause.

The effect of these cues in addressing students and phrasing the examples is a significant move towards reframing the ‘conversation with a white sheet of paper’ as an actual situated conversation between interlocutors. In shifting the addressee, Anne placed the students in a more active role vis-à-vis the example, in direct dialogue with themselves. The primary framework, that of the normative language tested in school, is thus transformed. The new key is ‘a set of conventions’ allowing the exercise to be ‘seen as something quite else’, as Goffman proposed (1974, p. 44). This cyclical keying through changes in indexical pronouns to address particular students and back to impersonal ones to invoke general rules marked several sequences in her classes.

5.3. Reframing 3: The double-entry table with word-tools to keep in mind

Anne used other means to articulate and shift among frames of reference. Upon seeing the results on the brevet blanc, she returned to the double-entry table with which she had simplified the complexity of textbook lessons (Fig. 1). The initial hand-written table evolved over time, yet apparently was never typed onto any of the summary sheets handed out to students. In June, we observed how in both 3C and 3D Anne drew the table on the board with the classification in margins but without filling in the connectors; she then asked students to propose the “first connector that came to mind” for each cell. In some cases, this led to questions concerning meaning, for example the difference between *grâce à* and *à cause de*. As the cells were being filled with the students' suggestions, they copied the table in their notebooks, ending with a completed version for that session (Fig. 4). The use of this scheme signaled shifts in the frame of reference, as Anne asked students “to fix it in their minds” (*l'avoir en tête*) in order to have the words readily available for constructing the causal connections and solving the brevet questions. She termed the individual words in the cells word-tools (*mots-outils*), useful as a means to respond quickly with a known word to any question requiring a specific connector.

The interactions during the sequence reveal tensions as Anne altered the frame attempting to get students to grasp the underlying logic, rather than just placing words in the correct grammatical slots of the table. As the class progressed Anne increasingly focused on only four cells, those for coordinate and subordinate clauses linked by either cause or consequence conjunctions. She then asked students to find the four possible connections between two propositions which she wrote on the board, again related to their current situation: *le brevet blanc approche* and *je révise sérieusement* (‘the brevet blanc is coming soon’ and ‘I review seriously’). She first suggested that they answer quickly, then conceded to their request to make notes, yet immediately asked for oral responses in a rapid succession in the case of compound and complex sentences expressing cause in the first column. Her intention in using a rapid pace seemed to be for them come up with answers without writing them down, to have the word-tools readily ‘fixed in their minds’. Students seemed to have mastered this series on cause as they offered acceptable solutions.

Anne then continued asking for sentences with connectors for expressing consequence between the two clauses, a task that proved more difficult for students in this group. As students produced sentences expressing consequence, the confusion with cause was still

EXPLICIT (explicit)	Mots-outils	Cause	Conséquence	
	en phr. simple → des prépositions	grâce à ... à cause de ...	au point de ...	
	en phr. complexe (entre indépendantes)	conj. de coord.	car	donc
		adv. de liaison	en effet	par conséquent
avec des subordonnées → conj. de sub.	parce que	si bien que		

EXPLICIT	Mots outils (Word tools)	Cause	Consequence	
	Simple sentences → preposition	à cause de = because of grâce à = thanks to	au point de = so that as a result	
	Coordinate independent clauses	→ Coordinating conjunction	car = for	donc = so
		→ Adverb	en effet = since	par conséquent = consequently
With subordinate clauses → subordinating conjunction	parce que = because	si bien que = so (much) that		

Fig. 4. Completed double-entry table, copied from board by Lilia 3 D, June 1, with our translation.

present. In 3D, Anne selected Fatoumata's difficulties in producing a compound sentence with a coordinating conjunction as an example of a frequent error.

	Extract 4: The brevet is approaching	3D June 1
1	A: Très bien, explicitiez-moi maintenant la conséquence... par coordination... par coordination... Fatoumata?	A: Very good, now make explicit for me consequence by coordination... by coordination... Fatoumata?
2	Fatoumata: Le brevet approche parce que... (inaudible, apparemment changeant la proposition)	F: The brevet is coming soon because... (inaudible, apparently changing the wording)
3	A: Pourquoi tu changes tout? Garde la proposition que j'ai proposée...	A: Why do you change everything? Keep the proposition I just proposed...
4	Fatoumata: Quelles propositions?	F: What propositions...?
5	Élève (entre plusieurs voix): Elle te dit de faire ces phrases avec... une conjonction de coordination.	Student (one of several speaking): She told us to make a sentence with a coordinating conjunction.
6	Fatoumata: Ah d'accord! (elle lit) Le brevet approche... non... je révisé sérieusement.	F: Aah, ok! (she reads) The brevet is coming soon... no... I review seriously.
7	Des élèves garçons: Non... (Anne attend)	Several boys say: no... (Anne waits)
8	Fatoumata (en prenant une intonation plus décidée): Non... le brevet approche... [reste de la phrase inaudible] non... je révisé sérieusement car le brevet approche.	Fatoumata (with a surer tone): No... the brevet is coming soon... [inaudible] no... I study seriously as the brevet is coming soon.
9	A: Très bon exemple... j'ai demandé de... la conséquence... ce qu'elle dit c'est une phrase recevable puisqu'elle dit... 'Le brevet approche, non... je révisé sérieusement car le brevet approche'. C'est recevable, ça a du sens. Sauf que ce que j'avais demandé... moi, d'explicitier non pas la cause par la coordination, mais la conséquence... Attention, c'est exactement le type d'erreur qu'on trouve le plus souvent, c'est-à-dire que les élèves construisent une phrase qui est recevable mais on a demandé un rapport logique, et ils en donnent un autre... oui? ... alors corrige-toi Fatoumata.	A: A very good example... I asked for a clause expressing consequence... what she said is an acceptable sentence, as she said: The brevet is coming soon, no... I review seriously as the brevet is coming soon. It is acceptable, it makes sense. Except that what I asked for was not to express cause by coordination but rather consequence... Watch out, this is exactly the type of error that is most frequent, that is, students form sentences that are acceptable, but the instruction asks for a certain logical relation, and they give another... yes?... so correct yourself, Fatoumata.
10	Fatoumata (silence assez long): Le brevet approche donc je révisé sérieusement.	Fatoumata (after a rather long silence): The brevet is coming soon so I study seriously.
11	A (répète): Le brevet approche, donc je révisé sérieusement.	A (revoices): The brevet is coming soon, so I study seriously.

The shift from written to oral solutions marked a subtle reframing, as Anne attempted to have students actually listen to whether what they were saying 'made sense' logically or not, rather than just using the lists or the double-entry table as a tool for inserting the correct word. Thus, she wagered on establishing a connection between the abstract semiotic representation of logical connectors and their logic-in-use, particularly when asking for words that are common in everyday speech. These shifts were at times keyed through a very personal tone in her requests (turns 3, 9).

Anne's use of the simplified double-entry table as a framing device that substituted the textbook had several implications. On the one hand she used it to support students' growing awareness of the need to attend *both* to the distinctions among words that serve to express cause or consequence, and to the sequence of the clauses in order to distinguish coordinate or subordinate clauses. On the other hand, she went beyond the immediate pressure of helping them pass the brevet, to give students ways of connecting the abstract and rather complicated grammatical schemes they face in schooling with their intuitive understanding of what is logical in everyday expressions. She concentrated tasks on those logical connectors that are generally used by the students in speech (*donc, car, parce que*), while explaining the nuances of other expressions less common in talk but found in texts and in the exam, such as *puisque* (since). Although initially preparing the table as a clearer and more logical presentation of the complex classification of connectors found in the textbook, during these lessons, Anne alternated and articulated the use of this graphic scheme with the oral/aural rekeying in her interaction with students. She shifted from a graphic representation of the word classification towards a tool to be 'fixed in the mind' and mastered orally in order to be ready for use at any moment.

6. Discussion: meeting challenges

Returning to the original problem we posed, we summarize here our findings regarding the ways in which Anne transformed the discursive texture of her interaction with students to mediate between the abstract grammatical schemes of logical connectors and their intuitive knowledge of the workings of language, within the concrete social situation of a French secondary classroom. Anne seemed quite aware of the dilemma between what Vygotsky noted as a 'conversation with a white sheet of paper' (1987, pp. 202–203) and the situated face-to-face conversation with her students. By having some students propose or read their sentences aloud and listen to themselves, she led them to engage in such a conversation with written texts, which they might not ordinarily have succeeded in doing.

Teachers in general face a deep contradiction between covering the prescribed curriculum and actually following their students' learning (Roth & Lee, 2007, p. 203). Anne handled this contradiction through an articulation or 'layering' (Goffman, pp. 156–157) of the reframing moves she managed while interacting with the students in the social situation of the classroom. She used a number of means to shift between frames, such as proposing phrases that expressed students' current situation and using deictic pronouns to engage them in conversation as principals of their own responses.

Anne faced the challenge of getting students to deal simultaneously with the grammatical classification of clauses and connectors, as found in their textbook and exams, and the need to produce statements that made sense logically. She had offered students a tool, a limited set of connectors in a double-entry table, where the constraints involved managing two simultaneous variables: the difference between compound and complex phrases and the identification of connectors expressing either cause or consequence. Some students found it difficult to link the two clauses in the proper order and with the correct logical connector. Individual students slipped into one or the other axis, by either focusing on the various cause and consequence connectors or by joining the clauses in sentences that made sense but expressed the opposite relationship than that requested. While facing the task of finding the correct solution to these test-like exercises, some students tended to rely on 'thinking in complexes' (Vygotsky, 1987, p. 136) by picking the nearest word in the list or table. In these situations, Anne counted on students' ability as competent speakers to intuitively identify illogical statements and correct themselves. She thus cautioned students not to fall into the trap (*piège*) hidden in many test questions where it was necessary to invert the order of the clauses, as well as choosing the right connector.

Anne's interaction with the students constantly moved between those binaries variously termed in theory as general/particular, abstract/concrete, scientific/spontaneous, or written/oral. While the hierarchies associated with these dichotomies have long been noted, we suggest that they can be cast in more horizontal terms as moves between various modes of language use and frames of reference. Anne successfully articulated the two poles while aiding students' appropriation of the intellectual tools she was committed to teaching them, by moving back and forth between the abstract representation of grammar and students' working knowledge of the language.

We gathered additional evidence from Anne's own statements, interspersed in her instructions to students, that supports this interpretation. At times, she would go meta by making explicit the logic of her requests to the group, and these expressions helped us further understand her practice.

A: *C'est pas compliqué parce que vous le faites à l'oral... Ça se comprend, il est facile de le dire, mais l'analyse est plus difficile* (It isn't complicated because you do it orally... you understand it, it is easy to say, but the analysis is more difficult). (3D May 20)

A: *Tu vois en le lisant... Je pense que c'est important de passer par l'écrit. Et quand tu le dis, quand tu lis ce que tu as écrit, tu vois la vraie cause* (You see it by reading it. I think that it is important to pass through writing, and when you say it out loud, when you read what you have written, then you see the real cause). (3D May 20)

A: *... si vous êtes rigoureux, et préparez oralement, avec des exemples, vous pourriez réussir tout le brevet* (... if you are rigorous, and prepare orally, with examples, you will be able to succeed in the brevet). (3D June 1)

Evident in these expressions is Anne's intention of having students understand both logical relationships and the dense interplay between oral and written modes. Within the oral/written matrix of classroom activity, Anne could rapidly move between oral/aural channels and different forms of graphic presentation. Anne would use the oral channel to opportunely express her own queries and responses to student difficulties. At times students found it hard to follow these transformations, but through repetition and adaptation to different students Anne's strategy surpassed the bare written schemes in the textbook exercises and test questions. Moreover, she took advantage of the aural channel to have students 'listen' in order to perceive the nonsense of statements produced through the

associative path of ‘thinking in complexes’. Thus, students had to manage both written and oral mediation, while they were called upon to keep in sight both the grammatical classification of logical connectors and the auditive perception of whether the sentences they produced made logical sense.

This evidence challenges a strong ideological divide between oral and written language that marks much classroom discourse as well as educational theory positing that a strong break with ‘practical reason’ is needed to display or develop abstract thought. While school contents tend to be represented and reproduced through written or graphic means, Anne, as other experienced teachers, tended to rekey interaction, transforming the activity so it might be ‘seen as something quite different’, as Goffman suggested.

7. Concluding remarks

In this article, we hope to have contributed to an understanding of the more general problem of conceptual development, posed by Vygotsky as a dialectic: “... the movement from above to below, from the general to the particular or from the top of the pyramid to its base is as characteristic of this process as is the reverse movement toward the pinnacle of abstract thinking” (1987, p. 128). In analyzing lessons on logical connectors, we have chosen a particularly hard case, as language as an object of study becomes entangled with language as the medium of instruction. The analysis of the complexities of classroom interaction from this perspective requires tools compatible with Vygotsky’s search for integrating the study of thinking with the study of social interaction, as underlined by Minick (2005) and further developed through CHAT (Roth & Lee, 2007). We have proposed that Goffman’s work on frame analysis offers valuable concepts for the task, as it is based on a notion of the situation as both singular in the ‘here and now’ and implicated in multiple temporalities borne before and beyond the situation. The ‘laminated frames of experience’ proposed by Goffman (1974, pp. 156-157) thus concur with Vygotsky’s position that all that is proper to the environment is only realized through the meanings that individuals accord each element (Vygotsky, 1994, p. 346).

Our study approached this problem only from the perspective of the teacher and did not address the conceptual development of the adolescent. Many students in this situation found the tasks of making sense of expressions ciphered in decontextualized and abstract terms and of producing cause or consequence statements on demand quite difficult, despite Anne’s year-long efforts. As Vygotsky noted: “the path from the abstract to the concrete is no less difficult for the adolescent than was the path from the concrete to the abstract in its time” (1987, 162). We of course have no way of knowing whether her manner of presenting grammatical connectors contributed to these students’ ongoing struggle to learn this academic content, although all passed the brevet. Our findings are limited to the process of mediation, the specific strategies Anne used to support their learning. Our analysis reveals her dynamic transformation of frames, as she elicited ways of thinking through both writing and speech, in order to connect the logic students had already mastered as competent speakers of French with the arbitrary semiotic rendering of grammar that has historically become the stuff of formal schooling.

What implications might this sort of study have for practice? We assume that a good deal of theoretically grounded classroom observation studies on mediation must yet be conducted in order to further describe actual teaching and thus share insights that might be useful for educators. The detailed analysis of Anne’s strategies in one of the more difficult grammar tasks of the language curriculum suggests that her expertise, recognized by both colleagues and students, involved not some abstract method but rather a well-honed skill in calling upon her students’ intuitive judgement in relation to the logic of given expressions. Perhaps this insight applies to many other classroom situations faced by teachers. Her success also rested on a strong “trusting relation” (McDermott, 1977) with her students, long understood as a requirement for better teaching.

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References

- Beumanoir-Secq, M. (2013). Réfléchir sur la langue, le problème de la construction du jugement linguistique. In O. Bertrand, & I. Shaffner (Eds.). *Enseigner la grammaire* (pp. 431–440). Paris: Les Éditions de l’École Polytechnique, Ellipses.
- Chartier, A.-M. (2007). *L’école et la lecture obligatoire. Histoire et paradoxes des pratiques d’enseignement de la lecture*. Paris: Retz <https://doi.org/10.14375/np.9782725633848>.
- Chervel, A. (2006). *Histoire de l’enseignement du français du XVIIe au XXe siècles*. Paris: Retz. <https://doi.org/10.14375/np.9782725628028>.
- Cook-Gumperz, J., & Keller-Cohen, D. (1993). Alternative literacies in school and beyond: Multiple literacies of speaking and writing. *Anthropology and Education Quarterly*, 24(4), 283–287. <https://doi.org/10.1525/aeq.1993.24.4.04x0060h>.
- Daniels, H. (2005). Introduction. In H. Daniels (Ed.). *An introduction to Vygotsky* (pp. 32–56). (2nd ed.). London: Routledge. <https://doi.org/10.4324/9780203022214>.
- Erickson, F. (2004). *Talk and social theory. Ecologies of talking and listening in everyday life*. Malden, MA: Polity Press.
- Finnegan, R. (2006). Not by words alone: Reclothing the “oral” In D. R. Olson, & M. Cole (Eds.). *Technology, literacy, and the evolution of society. Implication of the work of Jack Goody* (pp. 265–287). Mahwah, NJ: Lawrence Erlbaum. <https://doi.org/10.4324/9780203759752>.
- Goffman, E. (1974). *Frame analysis. An essay on the organization of experience*. New York: Harper Colophon.

- Goffman, E. (1981). *Forms of talk*. Philadelphia: University of Pennsylvania Press.
- Goffman, E. (1983). The interaction order. *American Sociological Review*, 48(1), 1–17.
- Irvine, J. (1996). Shadow conversations. The indeterminacy of participant roles. In M. Silverstein, & G. Urban (Eds.). *Natural histories of discourse* (pp. 131–159). Chicago: University of Chicago Press.
- Joigneaux, C. (2009). La construction de l'inégalité scolaire dès l'école maternelle. *Revue Française de Pédagogie*, 169, 17–28. <https://doi.org/10.4000/rfp.1301>.
- Lahire, B. (1993). *Culture écrite et inégalités scolaires: Sociologie de « l'échec scolaire » à l'école primaire*. Lyon: Presses Universitaires de Lyon.
- McDermott, R. (1977). Social relations as contexts for learning in school. *Harvard Educational Review*, 47(2), 198–213.
- Minick, N. (2005). The development of Vygotsky's thought: an introduction. In R. W. Rieber, & A. S. Carton (Eds.). *The collected works of L.S. Vygotsky Vol. I: Problems of general psychology* (pp. 17–36). New York: Plenum Press.
- Robinson, D. (2005). *Introducing performative pragmatics*. New York: Routledge. <https://doi.org/10.4324/9781315019017>.
- Rockwell, E. (2012). Appropriating written French: Literacy practices in a Parisian elementary classroom. *Reading Research Quarterly*, 47(4), 382–403. <https://doi.org/10.1002/RRQ.028>.
- Rockwell, E., & Anderson-Levitt, K. (2017). Comparing ethnographies across the Americas: Queries and lessons. In K. Anderson-Levitt, & E. Rockwell (Eds.). *Comparing ethnographies: Local studies of education across the Americas* (pp. 1–26). Washington, D.C: American Educational Research Association.
- Rockwell, E., & Galvão, A. M. (2012). Paradoxes in French-language instruction: Recent social and historical research on literacy in France. *Reading Research Quarterly*, 46(3), 328–341. <https://doi.org/10.1002/rrq.023>.
- Roth, W. F., & Lee, Y. J. (2007). "Vygotsky's neglected legacy": Cultural-historical activity theory. *Review of Educational Research*, 77(2), 186–232. <https://doi.org/10.3102/0034654306298273>.
- Vygotsky, L. S. (1987). [orig. 1934]. Thinking and speech. In R. W. Rieber, & A. S. Carton (Eds.). *The collected works of L.S. Vygotsky, Vol. I: Problems of general psychology* (pp. 39–285). New York: Plenum Press.
- Vygotsky, L. S. (1994). The problem of the environment. In R. Van der Veer, & J. Valsiner (Eds.). *The Vygotsky reader* (pp. 338–354). Cambridge, GB: Blackwell.
- Vygotsky, L. S. (1995). Apprentissage et développement à l'âge préscolaire. *Société Française*, 52(2), 35–45.
- Vygotsky, L. S. (1997). Prehistory of the development of written language. In R. W. Rieber (Ed.). *The collected works of L.S. Vygotsky Vol 4: The history of the development of higher mental functions* (pp. 131–148). New York: Springer Science and Business Media LLC.
- Vygotsky, L. S. (1998). The problem of age. In R. W. Rieber (Ed.). *The collected works of L. S. Vygotsky Vol. 5: Child psychology* (pp. 187–205). New York: Plenum.
- Vygotsky, L. S. (2018). The problem of consciousness. In E. Zavershneva, & R. van der Veer (Eds.). *Vygotsky's notebooks, a selection* (pp. 271–290). Singapore: Springer.