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# A Longitudinal Study in the L2 Acquisition of the French TAM System

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Received: 17 June 2020; Accepted: 16 October 2020; Published: 23 October 2020



**Abstract:** Empirical studies investigating the second language (L2) acquisition of tense, aspect, mood/modality (TAM) systems offer an enlightening window into L2 learners' linguistic competence because they involve all areas of a language, making them ideal testing grounds for the Interface hypothesis and ultimately whether adult learners may achieve a native-like TAM system. This longitudinal study used a pre-test, repeated exposure, delayed post-test design guided by a main research question—does the L2 learners' interlanguage display contrasts and systematicity? Sixteen L2 French learners—L1 English ( $n = 9$ ), HL French ( $n = 4$ ), and HL Spanish ( $n = 3$ ) speakers enrolled in a fourth-year college Film and Fiction class read five novels that were extensively discussed in class and used as essay topics, thus providing controlled, repeated exposure to oral and written input over a semester. Qualitative and quantitative findings reveal a highly accurate production of several forms, but with an over-reliance on the indicative present. The learners' TAM system appears to be contrasted and varied, but unbalanced. Findings regarding the Interface hypothesis are mixed.

**Keywords:** tense; aspect; mood; modality; L2 French; Interface hypothesis; longitudinal study

## 1. Introduction

Empirical studies investigating the second language (L2) acquisition of tense, aspect, mood/modality (TAM) systems offer an enlightening window into L2 learners' linguistic competence because they involve all areas of a language, making them ideal testing grounds for the Interface hypothesis and ultimately to determine whether adult learners may achieve a native-like TAM system (Ayoun and Rothman 2013; Reinhart 2006; Salaberry and Ayoun 2005). Initially proposed to account for residual variability at advanced stages of L2 acquisition (Sorace 2000, 2003, 2005), the Interface hypothesis has been extended to bilingual L1 acquisition, the early stages of L1 attrition, language breakdown, and diachronic change (Sorace 2011; Sorace and Filiaci 2006). The Interface hypothesis adopts a modularity view that distinguishes between internal interfaces (i.e., between two linguistic modules such as syntax and morphology) and external interfaces (i.e., between a linguistic module and cognition). External interfaces are defined as overlapping points in the mental representation of grammar with the interaction of properties between at least one linguistic module and an aspect of cognition. Properties at internal interfaces are acquirable albeit with developmental delay, while properties at external interfaces may never be fully acquired leading to residual L1 effects, optionality, and indeterminacy in L2 grammars.

TAM properties stand at both internal (i.e., syntax, morphology, semantics) and external interfaces (e.g., pragmatics and cognition) allowing us to test the hypothesis that properties situated at external interfaces are more complex and thus more difficult to acquire than narrow syntactic properties e.g., (Sorace and Serratrice 2009). Grammar-internal properties include inflectional morphology for tense-marking, while grammar-external properties concern mood selection, which requires L2 learners to process pragmatic and discourse information (Collentine 2003). Hence, according to the Interface hypothesis, L2 French learners should eventually successfully acquire tense-marking

inflectional morphology that depends on syntax, semantics, and the lexicon in addition to morphology (i.e., internal interfaces), but exhibit persistent optionality and/or indeterminacy in mood selection such as the indicative vs. the subjunctive, the conditional, or the imperative (i.e., external interfaces). Internal and external interfaces are thus expected to yield different outcomes e.g., (Sorace and Serratrice 2009; Tsimpli and Sorace 2006), but in order to test the Interface hypothesis, we need to examine an entire TAM system.

However, most TAM L2 studies tend to be narrowly focused on a few specific properties such as the aspectual distinction between the perfective and the imperfective in the past, and are rarely longitudinal (see e.g., Ayoun 2013 for a review). We are hence lacking a more complete picture of the TAM system L2 learners may develop as they progress toward the target language and we do not know whether they experience more difficulties with internal or external interfaces. Another important caveat is a lack of control over the input to which L2 learners are exposed prior to completing elicitation tasks as participants in empirical studies in spite of the well-known importance of the input e.g., (Gass 2013; Piske and Young-Scholten 2009). This prevents us from establishing a potential causality between the type of input and participants' performance.

The present study addresses these two caveats by analyzing six essays written by instructed learners who were enrolled in a French Film and Fiction class over the course of an academic semester. They were either English native speakers or heritage speakers of Spanish or French, which is why we will now give a brief overview of the TAM system of these three languages.

## 2. The French, English and Spanish TAM Systems

The concept of time is expressed by the two distinct grammatical categories of tense that “relates the time of the situation referred to some other time, usually to the moment of speaking” (Comrie 1976, pp. 1–2) and aspect defined as the “different ways of viewing the internal temporal constituency of a situation” (Comrie 1976, p. 3). Thus, tense situates events along a timeline in reference to others (i.e., past, present, future), whereas aspect reflects the speaker's viewpoint (i.e., perspective) on a given situation (i.e., perfective for completed, imperfective for incomplete, progressive for in progress). Aspect is further divided into lexical aspect and grammatical aspect. The latter concerns the internal constituency of a situation and is expressed with inflectional morphology or morphological forms. For instance, the aspectual distinction between perfective and imperfective in French is expressed through *passé composé/passé simple* and *imparfait*, respectively e.g., (Smith 1991, 1997). Lexical aspect refers to the inherent semantic properties of verbs or predicates as states, activities, achievements, and accomplishments (Mourelatos 1978; Vendler 1967).

French and Spanish are Romance languages that exhibit a hybrid TAM system that relies mostly on moods with an important indicative-subjunctive mood alternation, while expressing modality with auxiliary and lexical verbs<sup>1</sup>. Both languages use the present, past, and future temporalities, and the main aspectual distinction in the past is between the perfective and the imperfective although Spanish also grammaticalizes the progressive that is only lexicalized in French. In contrast, English is primarily a modal language that relies on modal auxiliaries as in (1a, b, c).

1. a. Je ne peux pas y aller avec toi, je dois rendre ce rapport demain. *No puedo ir contigo, tengo que entregar este informe mañana.* ‘I cannot go with you, I have to turn in this report tomorrow’.
- b. Je voudrais bien y aller avec toi, mais ce n'est pas possible. *Me gustaría ir contigo, pero no puedo.* ‘I would like to go with you, but I can't’.
- c. Tu aurais dû me le dire, je t'aurais aidé. *Me lo tendrías que haber dicho, te hubiera ayudado.* ‘You should have told me, I would have helped you’.

<sup>1</sup> As a marked mood necessary to express various modalities (i.e., the speaker's attitude towards the utterance), the subjunctive is considered as a benchmark in the L2 acquisition of French.

The indicative-subjunctive alternation characterizes the French and Spanish TAM systems, see e.g., (Collentine 2010 for Spanish and Ayoun 2013 for French), while the English subjunctive has dwindled to the point that it is no longer considered a mood e.g., (James 1986).

2. a. Elle a échoué à ses examens parce qu'elle était malade. *Suspendió sus exámenes porque estaba enferma.* 'She failed her exams because she was sick'.
- b. *Je suis triste qu'elle soit malade. Me apena que esté enferma.* 'I'm sad that she is sick'.
- c. *Il est dommage vous n'ayez pas pu venir avec nous. Es una lástima que no pudiera venir con nosotros.* 'It's a pity that you couldn't come with us'.

The examples in (2a) are in the indicative because they express a certainty, while the sentences in (2b, c) are in the subjunctive because they express subjectivity (i.e., the way the locutor feels about the event). Generally, the indicative expresses a commitment to the truth-value of a statement, contrary to the subjunctive (Palmer 2001), or realis vs. irrealis. The French subjunctive generally appears in the embedded clause following a triggering element in the main clause such as a verb or lexical expression expressing doubt, (im)probability, (im)possibility, volition, judgment, commands, regrets, or desire. Only certain verbs of opinion trigger the subjunctive particularly in the negative or interrogative, but not always as exemplified in (3): The subjunctive is required in (3a), but both moods are possible in (3b, c) with the indicative allowing the speaker to express a much greater certainty than with the subjunctive.

3. a. *Elle pense que c'est-INDPRES possible/\*ce soit-SUBJPRES possible.* 'She thinks it's possible'
- b. *Elle ne pense pas que c'est-INDPRES vrai/ce soit-SUBJPRES vrai.* 'She does not think it's true'
- c. *Pense-t-elle que c'est intéressant-INDPRES /ce soit-SUBJPRES intéressant?* 'Does she think it's interesting?'

An indefinite antecedent may be used with the subjunctive, indicative, or conditional as shown in (4a, b). Again, the indicative allows the speaker to express the belief that such a translator or colleagues do exist, whereas the subjunctive and conditional express irrealis regarding the existence of these people.

4. a. *Paul cherche un traducteur qui sait-INDPRES/sache-SUBJPRES /saurait-CONDPRES l'arabe.* 'Paul is looking for a translator who knows Arabic'.
- b. *Lisa aimerait travailler avec des collègues qui la respectent-INDPRES- SUBJPRES /respecteraient-CONDPRES.* 'Lisa would like to work with colleagues who respect her'.

We note that for verbs ending in *-er*, the indicative and subjunctive forms are indistinguishable, creating some ambiguity. Both French and Spanish exhibit polarity subjunctive, but not in the same contexts. In Spanish, it is licensed with epistemic, perception, and communication verbs whereas it is only licensed with negated epistemics in French (Borgovono and Prévost 2003). Both languages require the subjunctive after certain conjunctions (e.g., *bien que* 'although', *pour que* 'so that'; *para que* 'so that', *ojalá* 'hopefully'). To sum up, in both French and Spanish, the subjunctive may be obligatory (the majority of cases particularly for French) or optional.

Examples of subjunctive still used in Standard English are akin to frozen expressions (e.g., Long live the King! May he rest in peace), use modal auxiliaries (e.g., I'm surprised that Anne should think that) (Palmer 2003, p. 4), or the verb remains uninflected as in (5–8) (Celce-Murcia and Diane 1999, pp. 632–47):

5. a. They insist that all the students sign up for a counselor.
- b. They insist that this student sign up for a counselor
6. a. The customer is demanding that the stores return his money.
- b. The customer demanded that the store return his money

7. a. We insist that he be the one to make the call.  
b. The customer demanded that his money be returned.
8. a. We insist that he not make the telephone call.  
b. \*We insist that he do/does make the telephone call.

Thus, the subjunctive mood does survive in Standard English in specific contexts, but it is a more marked form than it is in French or Spanish.

French and Spanish differ in the use of the progressive with verbal morphology in the latter as in English, but not the former as in (9).

9. a. Estaba caminado sola, no sé por qué. *Elle marchait seule, je ne sais pas pourquoi.* ‘She was walking by herself, I don’t know why’.  
b. *Estoy pensando en este nuevo proyecto. Je suis en train de réfléchir à ce nouveau projet.* ‘I’m thinking about this new project’.  
c. *Estaba cocinando la cena. Il préparait/était en train de préparer le dîner.* ‘He was cooking dinner’.

Thus, in the past, the progressive may be expressed with the *imparfait* or the indicative present in French in addition to the lexical periphrasis *être en train de* ‘to be in the middle of doing something’, whereas the Spanish progressive may also be combined with perfective and imperfective forms as well as future and conditional forms (King and Suñer 1980), while French perfective forms disallow the progressive.

The main aspectual distinction in the past is between the perfective and the imperfective in both French and Spanish, but it is between the perfective and the progressive in English. *Imparfait* in French can correspond to an imperfective or a progressive in Spanish or in English; the latter may also render an imperfective as a perfective or a modal auxiliary as in (10).

10. Quand je vivais à Nice, je jouais au tennis en été. *Cuando vivía en Nice, jugaba al tenis durante el verano.* ‘When I lived in Nice, I would play tennis in the summer’.

English and Spanish display a form composed of an auxiliary and past participle–present perfect for the former and *pretérito perfecto compuesto* for the latter—to express either an indefinite past as in (11a) or an event that started in the past and is still relevant in the present as in (11b). In contrast, French uses *passé composé* in (11a), while French and Spanish use an indicative present in (11c).

11. a. Lo han vendido. *Ils l’ont vendu.* ‘They have sold it’.  
b. *Han empezado a construir la casa nueva. Ils ont commencé à construire la nouvelle maison.* ‘They have started to build the new house’.  
c. *Hace much tiempo que lo conozco. Je le connais depuis longtemps.* ‘I have known him for a long time’.

French does distinguish between a definite and an indefinite past, but by using *passé composé* for the former (12a) and the indicative present for the latter that is still relevant in the present (12b).

12. a. Sophie est sortie-PC avec ses amis hier soir. Sophie went out with her friends last night.  
b. *Sophie sort-INDPRES avec ses amis de temps en temps.* Sophie has been going out with her friends once in a while.

French also uses *passé simple* as a perfective past form like *passé composé*, but it is typically limited to written contexts, more elevated registers, or to refer to the historic past in oral contexts (Labeau 2007, 2009).

This very brief overview shows that there is no strict correspondence between tense and temporality and that a rich morphology is used to express not only temporal, but also modal and aspectual distinctions. French and Spanish exhibit TAM systems with some similarities, but also with some notable differences.

### 3. Literature Review of French TAM Studies

Among the few studies that have tackled more than a single aspect of the TAM system that L2 learners develop toward their L2 acquisition of French are (Herschensohn and Arteaga 2009), (Howard 2008, 2012, 2015) and Ayoun (2013, 2015). Myles (2005) is another longitudinal study, but with a focus on the emergence of syntactic structure and verbal morphology by 12–13-year-old Anglophone children ( $n = 14$ ). The analysis of the syntactic structure of their utterances from oral narratives showed that the children initially produce lexical phrases without verbs, then untensed verbs (e.g., *ma mère regarder le magasin*; Myles 2005, p.100), and finally tensed verbs after a period during which finite and nonfinite verbs coexist before the children use verbal morphology appropriately. Other studies with older and more advanced L2 learners show that they eventually show a good mastery of the rich and complex French verbal morphology. Thus, in Herschensohn and Arteaga (2009), three advanced Anglophone learners of L2 French who performed oral and written production tasks as well as grammaticality judgment tasks over a seven- to nine-month period showed they could use a variety of morphological forms (i.e., *passé composé*, *imparfait*, present conditional) with nearly perfect accuracy. Herschensohn and Arteaga argued that their participants' performance indicates that adult learners can eventually acquire the target language contra impairment hypotheses such as the Failed Functional Features Hypothesis that claim that features that are not instantiated in the L1 cannot be acquired in the L2, resulting in incomplete acquisition and permanent deficits e.g., (Hawkins and Chan 1997; Hawkins and Liszka 2003).

Howard (2012) investigated the acquisition of the future, conditional, and subjunctive in the L2 French acquisition of Irish college students ( $n = 18$ , aged 20–22) by conducting individual sociolinguistic interviews, thus obtaining natural, spontaneous speech, but few tokens: 116 tokens for futurity, 100 contexts requiring the subjunctive, 215 contexts requiring the modal, hypothetical use conditional<sup>2</sup>. Participants in all three groups had been learning French for eight to nine years and were majoring in French in college: Group 1 and group 3 had completed two and three years of French instruction, respectively, while group 2 had also spent one year studying abroad. The indicative present was used the most often in future contexts (32%, 27%, and 61% for group 1, 2, and 3, respectively), the subjunctive was rarely clearly marked (4.5%, 16%, 13%), while the conditional was produced the most often (55%, 66%, 74%), but it was provided by the interviewer's hypothetical 'if' questions. The same data were used in (Howard 2005) for past events taking place prior to another one (e.g., *quand Sophie est arrivée, la soirée était déjà finie* 'when Sophie arrived, the party had already ended'). Such contexts require *plus-que-parfait*, but Howard also considered other forms expressing a temporal contrast. Few verbal tokens were used with *plus-que-parfait* (9%, 35%, and 31% for groups 1, 2, and 3, respectively).

Ayoun (2005) analyzed personal narratives written by instructed English learners (aged 20 to 24) who were at three different proficiency levels as determined by a pre-test ( $n = 14$  at intermediate-mid,  $n = 12$  at intermediate-high,  $n = 11$  at advanced); they produced appropriately inflected morphological forms in well-formed sentences (with appropriate negation and adverb placement), indicating they had acquired the functional categories associated with the strong features of verbs triggering their syntactic movement. The various forms they accurately produced also showed different semantic contrasts such as the aspectual distinction between *passé composé* and *imparfait*. However, their performance on the cloze test was noticeably worse with significant differences between groups.

In a similar study, Ayoun (2013) reports the results of written production, sentence completion tasks, and cloze tests. The results of a pre-test yielded three groups of participants ( $n = 14$  at beginning,  $n = 15$  at intermediate,  $n = 13$  at advanced averaging 22.5, 22.4, and 24.46 in age, respectively) Participants' production was accurate on the first task, but limited to a few morphological forms such as indicative present or *passé composé*. Clear proficiency and lexical class differences emerged on the cloze tests

<sup>2</sup> Howard (2009) used the same 215 tokens for the conditional to explore his participants' production in more detail. The percentages are based on the total number of verbal tokens produced.

and sentence completion tasks. Participants struggled with modals and the indicative/subjunctive alternation (e.g., even the advanced group's performance depended on the type of semantic/syntactic triggers for the subjunctive).

Other studies also found that L2 learners were highly accurate for the indicative present, but not the subjunctive e.g., (Herschensohn and Arteaga 2009; Howard 2008, 2012; Lealess 2005; McManus and Mitchell 2015). For instance, the longitudinal case study of Billy—an Anglophone learner who started acquiring French in an instructed setting at 14 in Ayoun (2015)—reveals an interlanguage grammar with contrasts and systematicity between different temporalities and with the indicative-subjunctive alternation, but again, accuracy percentages were noticeably better on guided production tasks than on some elicitation tasks such as sentence completion tasks.

In Ayoun (2013), the performance of Anglophone L2 learners improved with proficiency on a sentence completion task (19.89%, 50.32%, and 61.91% for the beginning, intermediate, and advanced groups, respectively) for the subjunctive present. Moreover, there was a significant effect for the semantic/syntactic trigger with the best performance on order/interdiction semantic triggers.

It is interesting to note that McManus and Mitchell (2015) report similar findings with Anglophone learners who had spent nine months abroad and who completed two production tasks (a written argumentative task and an oral, guided interview) and a grammaticality judgment task.

To the best of our knowledge, there are no longitudinal TAM studies of Hispanophone learners of L2 French, and only a few cross-sectional studies such as (Izquierdo and Collins 2008) that compared Hispanophone (n = 17) and Anglophone (n = 15) instructed learners in their acquisition of the perfective/imperfective aspectual distinction with a 68 item cloze test and a retrospective interview. They found that Anglophone learners preferred the perfective and relied on verb semantics, while Hispanophone learners benefited from L1-L2 similarities. (Izquierdo 2009) also administered a cloze test to Hispanophone learners (n = 44) exemplifying prototypical and nonprototypical uses of the perfective and imperfective. All proficiency levels marked a preference for prototypical uses and a persistent challenge for nonprototypical uses. In a study designed to investigate multimedia instruction effects on the acquisition of (non)prototypical past forms by Hispanophone learners, (Izquierdo 2014) found an improvement only for learners at the lowest proficiency levels.<sup>3</sup>

To sum up, longitudinal studies of L2 French learners report an improvement in performance with proficiency, indicating that they do eventually acquire target-like verbal morphology, but with strong task effects (hence the importance of administering different elicitation tasks), and with learnability difficulties to which we now turn.

#### 4. Learnability Issues and Research Questions

The fact that L2 learners experience difficulties in mapping TAM abstract features to morphological forms is formally explained by hypotheses such as the Missing Inflection hypothesis (Haznedar and Schwartz 1997), the Missing Surface Inflection hypothesis (Prévost and White 2000), the Prosodic Transfer hypothesis (Goad et al. 2003), or the Feature Assembly Hypothesis (Lardiere 2008, 2009) in addition to the Interface hypothesis.

According to the first two hypotheses, the fact that L2 learners fail to produce certain morphological forms reveals difficulties with the realization of surface morphology itself, rather than a syntactic impairment related to the strength or projection of functional categories. This is referred to as a mapping problem in that L2 learners may not always be able to reassemble L1 features into the appropriate L2 configurations (Lardiere 2000), but it does not indicate a permanent deficit. For instance, root infinitives are typical of the “basic variety” in interlanguage grammars (Klein and Perdue 1997)

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<sup>3</sup> Izquierdo and Kihlstedt (2019) focuses even more narrowly on *imparfait* in written narratives by Hispanophone learners (n = 94).

but are replaced with the appropriate inflectional morphology in obligatory contexts over time e.g., (Herschensohn 2001; Prévost and White 2000; Prévost 2003).

The Prosodic Transfer Hypothesis emphasizes the role that prosodic structures play in achieving a target-like representation of functional morphology and are derived from properties of the surface phonetic string and constrained by Universal Grammar.

All these hypotheses are relevant to the L2 acquisition of TAM systems, but we will focus on the Interface hypothesis because it allows us to factor in the complexity of TAM properties spanning across internal and external interfaces. The Interface hypothesis predicts that L2 French learners should eventually acquire tense-marking inflectional morphology that depends on syntax, semantics, and the lexicon in addition to morphology (i.e., internal interfaces), but exhibit persistent optionality and/or indeterminacy in mood selection such as the indicative vs. the subjunctive, the conditional or the imperative (i.e., external interfaces). The properties at the external interfaces are hypothesized to be more difficult to acquire because integrating information from various sources is cognitively costly e.g., (Ahern et al. 2016).

In concrete terms, to acquire a target-like TAM system, learners need to acquire: (a) The strong features of functional categories such as Agreement Phrase and Tense Phrase; (b) the perfective-imperfective aspectual distinction in the past (*passé composé* vs. *imparfait*); (c) the values of the *imparfait* (durative, imperfective, iterative); (d) the idiom *être en train de* for the progressive, which is lexicalized but not grammaticalized; (e) the indicative-subjunctive present alternation; (f) the fact that modal verbs (e.g., *devoir*, *falloir*) behave like lexical verbs with different modalities being expressed by moods; and (g) past, present, and future temporalities.

The main hypothesis to be tested is whether our L2 learners will display a systematically well-contrasted TAM system defined as the appropriate use of all three temporalities, aspectual distinctions, and the forms subsumed under the indicative, conditional, and subjunctive moods. Contrasted means that learners are able to differentiate between the present and the past temporalities, for instance, and systematic means that they are able to do so consistently, in obligatory contexts, and in a target-like manner.

Regarding the Interface hypothesis, the main research question will ask whether external interfaces (i.e., mood selection among the indicative, subjunctive, conditional, and imperative) are more difficult to acquire than internal interfaces (i.e., inflectional morphology across all three temporalities). Appropriate mood selection is considered to be part of the external interfaces because it involves pragmatics and discourse, although it could be argued that it also concerns internal interfaces. The indicative (expressing realis) is the most common, unmarked choice whereas the subjunctive and the conditional (expressing irrealis) are marked choices that must be triggered by at least one lexical or syntactic element (i.e., grammar-internal) or by the intention of the speaker to express indefiniteness/uncertainty (i.e., grammar-external) or the context be it uncertain or hypothetical (i.e., grammar-external).

We are also making the following predictions: (a) There will be a morphological form effect with a better performance and overreliance on the indicative present and *passé composé*; (b) participants will be highly accurate as essays allow learners to avoid forms they may not have fully acquired yet; (c) French and Spanish heritage speakers will benefit from a facilitative effect.

## 5. Materials and Methods

### 5.1. Participants

Participants were college students enrolled in a 4th-year French course at a major North American university. They were instructed learners of French as a foreign language and were compensated with extra-credit for their participation. They were told that the study was about learning French as a foreign language. All agreed to participate. Table 1 displays their background information.

**Table 1.** Participants’ background information.

	<b>L1 English n = 9</b>	<b>Heritage French n = 4</b>	<b>Heritage Spanish n = 3</b>
gender	F (n = 7), M (n = 2)	F (n = 4)	F (n = 2), M (n = 1)
age	21 (20–22)	22 (20–24)	21.7 (20–23)
college status	undergraduate		
college major	French (n = 5)	French (n = 2)	French (n = 3)
age of onset	15–17	0	15–17
L2 setting	instructed	home/instructed	instructed
Francophone stay	no (n = 6) yes (n = 4) 6 weeks to a year	yes (n = 4) 4–12 years	no (n = 3)
motivation	very to extremely motivated		

To ensure that the same participants would be followed for an entire semester so that they would be exposed to the same input and complete the same tasks, all the students enrolled in the same class had to be selected. This led to a heterogenous, but interesting, group of participants classified by their linguistic backgrounds as follows: Monolingual English native speakers (n = 9) and heritage speakers of either French (n = 4) or Spanish (n = 3).

The Spanish heritage speakers, who were bilingual in American English and Mexican Spanish, were born and raised in or had immigrated to the United States before the age of 5 and had strong personal ties to both Mexico and the United States, but were only schooled in English in the United States. The French heritage speakers were born and raised in France but had moved to the United States before the age of 5, so they had never been schooled in France, nor had they received formal instruction in French until they started taking French college classes. At least one of their parents was a French native speaker, and they also indicated having strong personal ties to both France and the United States. All the participants were undergraduate students, most majoring in French (n = 10). None of the Spanish heritage speakers had spent time in a Francophone country, while 6 L1 English learners had, with stays ranging from 6 weeks to 1 year. They all indicated being very to extremely motivated to continue learning French. The participants were either only enrolled in this class (n = 7), in a second 4th-year class (n = 6), or in two other 4th-year classes (n = 3). They were all content classes taught in French.

### 5.2. Classroom Setting and Materials

The participants were enrolled in a 4th-year Film and Fiction class that met three times a week for 50 min each time. The instructor chose five novels that had been made into movies as course materials. The class was organized as follows: Participants would first watch the movie at home to familiarize themselves with the storyline and the characters. They would then read 20 to 30 pages at a time at home to come to class prepared to discuss the story and the characters and share their opinions and reactions during instructor-led interactions. These interactions focused on the novels. Recasts<sup>4</sup> were used to implicitly indicate when a form was not target-like without interrupting the flow of the interaction, but no explicit grammatical clarification was given unless the participants requested it.

The participants were thus exposed to controlled, repeated input during their readings and class discussions of five novels during an entire semester. Three had very similar themes and storylines that provided that repeated, controlled input: *Un secret*, *Elle s'appela Sarah*, *Les enfants de la liberté*—take

<sup>4</sup> Recasts are defined as a corrective reformulation of an erroneous utterance during a natural interaction, they are thus a form of implicit negative feedback e.g., (Spada 1997).

place during the second world war and narrate the characters' personal stories during the Holocaust and the French Résistance movement. *Oscar et la dame en rose* and *L'élégance du hérisson*<sup>5</sup>—revolve around smart, endearing children who befriend an adult who understands why they are not as carefree as other children and plays a supportive role. Oscar is a 10-year-old boy who is dying of an incurable cancer, while Paloma is a precocious 12-year-old girl who has decided to commit suicide on her 13th birthday and set her home on fire because she feels adults and their world are hopeless.

### 5.3. Procedure and Tasks

The data were collected for a larger longitudinal study in the L2 acquisition of French morpho-syntax. Participants completed three written, computerized tasks per session during four sessions that took place at the beginning, middle, end of the semester and one month later for the delayed post-test. They first filled out a background information questionnaire and completed a grammaticality judgment task targeting various morpho-syntactic properties as an independent measure of proficiency. Participants also completed cloze tests whose results are reported elsewhere (Ayoun 2013). The present study reports on the quantitative and qualitative analyses of the 6 essays that the participants wrote at home every three weeks throughout the 16-week semester. The participants were given the same essay topics with instructions for length (see Appendix A) to ensure that their performance would be comparable while keeping in mind that it is impossible to guarantee that all would produce narratives of the same length. There were no time constraints as it was impossible to control, but all essays had a due date.

The essays were coded for appropriate uses of tense and mode given the obligatory contexts. For instance, if a participant started to write *il faut que mes parents ...* 'my parents have to ...', the subjunctive was required and thus expected; or a sentence starting with *si j'avais eu le temps ...* 'if I had had time ...' requires the use of past conditional in the main clause such as *j'aurais pu finir tout cela* 'I could have finished all that'. If a participant used present conditional or *imparfait*, it was classified as an error. If a spelling error made it difficult to determine the tense and/or mode used, it was not taken into account.

## 6. Results

The results of an ANOVA run on the GJT used as a pre-test revealed that the Heritage language (HL) French group's performance (84.9% overall accuracy mean) was better and statistically significant from the performance of the HL Spanish group (69.8%) and the L1 English group (62.8%) (sum of squares = 0.113,  $df = 2$ , mean squares = 0.057,  $F = 4.708$ ,  $p = 0.029$ ).

The topics of the essays related to one of the novels/films that were discussed in class (see Appendix A) were sufficiently varied to provide ample opportunities to use different forms anchored in the present, past, and future temporalities. The results appear in Tables 2–4.

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<sup>5</sup> *Un secret*, novel by Philippe Grimbert (2007) and movie by Claude Miller (2007); *Elle s'appelait Sarah*, novel by Tatiana de Rosnay (2010) and movie by Gilles Paquet-Brenner (2010); *Les enfants de la liberté*, novel by Marc Lévy (2008), no film adaptation; *Oscar et la dame en rose*, novel and film by Eric Emmanuel Schmitt (2009); *L'élégance du hérisson*, novel by Muriel Barbéry (2009) and film by Mona Achache (2009).

**Table 2.** L1 English group’s essays by verbal tokens and forms.

L1 English (n = 9)	Essay 1	Essay 2	Essay 3	Essay 4	Essay 5	Essay 6	Total Average
words	8681	8704	8346	8859	9326	16,126	60,042
<b>verbal tokens</b>	<b>1289</b>	<b>1274</b>	<b>1277</b>	<b>1126</b>	<b>1193</b>	<b>2800</b>	<b>8959</b>
<b>IndPres</b>	815	691	827	527	626	1161	4647
IndPres %	<b>63.22%</b>	<b>54.24%</b>	<b>64.76%</b>	<b>46.8%</b>	<b>52.47%</b>	<b>41.46</b>	<b>52%</b>
Errors	36–4.41%	9–1.30%	9–1.08%	16–3.03%	8–1.27%	44–3.78%	<b>122–2.65%</b>
<b>PC</b>	110	197	114	223	104	673	1421
PC %	<b>8.53%</b>	<b>15.46%</b>	<b>8.92%</b>	<b>19.8%</b>	<b>8.71%</b>	<b>24.03%</b>	<b>15.9%</b>
Errors	21–19.09%	18–9.13%	7–6.14%	10–4.48%	3–2.88%	46–6.83%	<b>105–7.4%</b>
<b>IMP</b>	97	186	82	143	39	322	869
IMP %	<b>7.52%</b>	<b>14.6%</b>	<b>6.42%</b>	<b>12.7%</b>	<b>3.26%</b>	<b>11.5%</b>	<b>9.7%</b>
Errors	8–8.24%	9–4.83%	3–3.65%	10–6.99%	1–2.56%	14–4.34%	<b>45–5.2%</b>
<b>InfPres</b>	205	141	195	160	190	405	1296
InfPres %	<b>15.9%</b>	<b>11.06%</b>	<b>15.37%</b>	<b>14.21%</b>	<b>15.92%</b>	<b>14.46%</b>	<b>14.5%</b>
Errors	27–13.17%	9–6.38%	11–5.64%	14–8.75%	11–5.78%	23–5.67%	95–7.3%
<b>PartPres</b>	16	14	11	15	17	25	98
PartPres %	<b>1.24%</b>	<b>1.18%</b>	<b>0.86%</b>	<b>1.33%</b>	<b>1.42%</b>	<b>0.003%</b>	<b>1.09%</b>
Errors	2–12.5%	2–14.28%	0–0%	4–26.67%	1–5.88%	0–0%	9–9.2%
<b>CondPres</b>	13	9	7	16	70	43	158
CondPres %	<b>1.01%</b>	<b>0.71%</b>	<b>0.55%</b>	<b>1.42%</b>	<b>5.86%</b>	<b>1.53%</b>	<b>1.76%</b>
Errors	3–23.1%	5–55.6%	0–0%	10–62.5%	5–7.14%	8–18.6%	31–19.6%
<b>SubjPres</b>	12	13	18	7	24	14	88
SubjPres %	<b>0.93%</b>	<b>1.02%</b>	<b>1.41%</b>	<b>0.62%</b>	<b>2.0%</b>	<b>0.5%</b>	<b>0.98%</b>
Errors	3–25%	1–7.69%	0–0%	0–0%	0–0%	14–100%	18–20.4%
<b>PQP</b>	4	3	3	15	0	49	74
PQP %	<b>0.31%</b>	<b>0.23%</b>	<b>0.23%</b>	<b>1.33%</b>	<b>0.0%</b>	<b>1.75%</b>	<b>0.82%</b>
Errors	0–0%	0–0%	0–0%	0–0%	0–0%	6–12.2%	<b>6–8.1%</b>
<b>Future</b>	4	3	8	6	107	58	186
Future %	<b>0.31%</b>	<b>0.23%</b>	<b>0.63%</b>	<b>0.53%</b>	<b>8.96%</b>	<b>2.07%</b>	<b>2.07%</b>
Errors	0–0%	0–0%	1–12.5%	0–0%	0–0%	0–0%	<b>1–0.53%</b>
<b>FutPro</b>	7	3	1	1	3	11	26
FutPro %	<b>0.54%</b>	<b>0.23%</b>	<b>0.078%</b>	<b>0.089%</b>	<b>0.25%</b>	<b>0.39%</b>	<b>0.29%</b>
Errors	0–0%	0–0%	0–0%	1–100%	0–0%	1–9.1%	2–7.7%
<b>InfPast</b>	3	2	4	7	9	10	35
InfPast %	<b>0.23%</b>	<b>0.15%</b>	<b>0.31%</b>	<b>0.62%</b>	<b>0.75%</b>	<b>0.35%</b>	<b>0.39%</b>
Errors	1–33.3%	0–0%	0–0%	0–0%	1–11.1%	0–0%	2–5.7%
<b>CondPast</b>	1	9	4	3	0	4	21
CondPast %	<b>0.07%</b>	<b>0.71%</b>	<b>0.31%</b>	<b>0.26%</b>	<b>0.0%</b>	<b>0.14%</b>	<b>0.23%</b>
<b>PresProg</b>	1	1	0	0	1	3	6
PresProg %	<b>0.07%</b>	<b>0.078%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.084%</b>	<b>0.11%</b>	<b>0.067%</b>
<b>SubjPast</b>	1	1	0	2	0	6	10
SubjPast %	<b>0.07%</b>	<b>0.078%</b>	<b>0.0%</b>	<b>0.18%</b>	<b>0.0%</b>	<b>0.21%</b>	<b>0.11%</b>
Errors	0–0%	0–0%	0–0%	0–0%	0–0%	1–16.7%	1–10%
<b>PS</b>	0	1	0	0	0	3	4
PS %	<b>0.0%</b>	<b>0.078%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.11%</b>	<b>0.044%</b>
Errors	0–0%	0–0%	0–0%	0–0%	0–0%	2–66.7%	2–50%
<b>IMPProg</b>	0	0	2	0	0	0	2
IMPProg %	<b>0.0%</b>	<b>0.0%</b>	<b>0.15%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.022%</b>
Errors	0–0%	0–0%	1–50%	0–0%	0–0%	0–0%	1–50%
<b>PastPart</b>	0	0	1	1	2	1	5
PastPart %	<b>0.0%</b>	<b>0.0%</b>	<b>0.078%</b>	<b>0.089%</b>	<b>0.16%</b>	<b>0.03%</b>	<b>0.056%</b>
<b>FutProg</b>	0	0	0	0	1	0	1
FutProg %	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.084%</b>	<b>0.0%</b>	<b>0.011%</b>
<b>Imperative</b>	0	0	0	0	0	12	12
Imperative %	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.43%</b>	<b>0.133%</b>

Table 3. HL French group's essays by verbal tokens and forms.

HL French (n = 4)	Essay 1	Essay 2	Essay 3	Essay 4	Essay 5	Essay 6	Total Average
words	4872	5043	5532	5296	5071	9617	35,431
<b>verbal token</b>	<b>891</b>	<b>850</b>	<b>850</b>	<b>738</b>	<b>704</b>	<b>1703</b>	<b>5736</b>
<b>IndPres</b>	539	428	458	217	376	601	2619
IndPres %	<b>60.5%</b>	<b>50.3%</b>	<b>53.9%</b>	<b>29.4%</b>	<b>53.4%</b>	<b>35.3%</b>	<b>45.6%</b>
Errors	4–0.74%	6–1.4%	2–0.43%	1–0.46%	2–0.53%	25–4.2%	<b>40–1.5%</b>
<b>PC</b>	62	109	60	134	63	239	667
PC %	<b>6.9%</b>	<b>12.8%</b>	<b>7.1%</b>	<b>18.2%</b>	<b>8.95%</b>	<b>14.0%</b>	<b>11.6%</b>
Errors	2–3.2%	5–4.6%	3–5%	5–3.73%	2–3.2%	15–6.3%	<b>32–4.8%</b>
<b>IMP</b>	73	143	108	152	22	319	817
IMP %	<b>8.2%</b>	<b>16.8%</b>	<b>12.7%</b>	<b>20.6%</b>	<b>3.12%</b>	<b>18.7%</b>	<b>14.2%</b>
Errors	1–1.4%	6–4.2%	7–6.5%	17–11.2%	2–9.1%	11–3.4%	<b>44–5.4%</b>
<b>InfPres</b>	180	128	171	158	152	407	1196
InfPres %	<b>20.2%</b>	<b>15.1%</b>	<b>20.1%</b>	<b>21.4%</b>	<b>21.59%</b>	<b>23.9%</b>	<b>20.85%</b>
Errors	0–0%	0–0%	2–1.2%	0–0%	7–4.6%	1–0.24%	10–0.83%
<b>PartPres</b>	4	12	14	10	10	18	68
PartPres %	<b>0.44%</b>	<b>1.41%</b>	<b>1.64%</b>	<b>1.35%</b>	<b>1.42%</b>	<b>1.1%</b>	<b>1.18%</b>
Errors	1–25%	0–0%	0–0%	0–0%	1	0–0%	<b>2–2.9%</b>
<b>CondPres</b>	8	6	7	7	7	3	<b>38</b>
CondPres %	<b>0.89%</b>	<b>0.71%</b>	<b>0.82%</b>	<b>0.95%</b>	<b>0.99%</b>	<b>0.01%</b>	<b>0.66%</b>
Errors	0–0%	0–0%	2–28.6%	3–42.8%	0–0%	0–0%	<b>5–13.2%</b>
<b>SubjPres</b>	7	5	6	4	7	20	49
SubjPres %	<b>0.78%</b>	<b>0.58%</b>	<b>0.71%</b>	<b>0.54%</b>	<b>0.99%</b>	<b>1.17%</b>	<b>0.08%</b>
<b>PQP</b>	6	5	1	25	5	19	61
PQP %	<b>0.67%</b>	<b>0.58%</b>	<b>0.11%</b>	<b>3.38%</b>	<b>0.71%</b>	<b>1.1%</b>	<b>1.06%</b>
Errors	0–0%	0–0%	0–0%	2–8%	0–0%	0–0%	<b>2–3.3%</b>
<b>Future</b>	4	9	19	9	51	12	104
Future %	<b>0.44%</b>	<b>1.05%</b>	<b>2.22%</b>	<b>1.22%</b>	<b>7.24%</b>	<b>0.07%</b>	<b>1.81%</b>
Errors	0–0%	1–11.1%	0–0%	1–11.1%	0–0%	2–16.7%	<b>4–3.8%</b>
<b>FutPro</b>	2	0	1	2	4	8	17
FutPro %	<b>0.22%</b>	<b>0.0%</b>	<b>0.11%</b>	<b>0.27%</b>	<b>0.56%</b>	<b>0.04%</b>	<b>0.29%</b>
Errors	0–0%	0–0%	0–0%	1–50%	0–0%	0–0%	<b>1–5.9%</b>
<b>InfPast</b>	0	1	3	2	2	2	10
InfPast %	<b>0.0%</b>	<b>0.11%</b>	<b>0.35%</b>	<b>0.27%</b>	<b>0.28%</b>	<b>0.01%</b>	<b>0.17%</b>
<b>CondPast</b>	0	0	0	3	0	5	8
CondPast %	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.41%</b>	<b>0.0%</b>	<b>0.02%</b>	<b>0.13%</b>
<b>SubjPast</b>	0	0	0	2	0	1	3
SubjPast %	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.27%</b>	<b>0.0%</b>	<b>0.005%</b>	<b>0.05%</b>
<b>PS</b>	4	4	1	11	3	27	50
PS %	<b>0.44%</b>	<b>0.47%</b>	<b>0.11%</b>	<b>1.49%</b>	<b>0.42%</b>	<b>1.58%</b>	<b>0.87%</b>
Errors	0–0%	0–0%	0–0%	1–9.1%	0–0%	1–3.7%	<b>2–4%</b>
<b>PastPart</b>	1	0	0	2	1	6	10
PastPart %	<b>0.11%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.27%</b>	<b>0.14%</b>	<b>0.03%</b>	<b>0.17%</b>
Errors	1–100%	0–0%	0–0%	2–100%	1–100%	6–100%	10–100%
<b>Imperative</b>	1	0	0	0	1	16	18
Imp. %	<b>0.11%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.14%</b>	<b>0.09%</b>	<b>0.32%</b>
<b>ImpProg</b>	0	0	1	0	0	0	1
ImpProg %	<b>0.0%</b>	<b>0.0%</b>	<b>0.11%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.017%</b>

**Table 4.** HL Spanish group’s essays by verbal tokens and forms.

<b>HL Spanish (n = 3)</b>	<b>Essay 1</b>	<b>Essay 2</b>	<b>Essay 3</b>	<b>Essay 4</b>	<b>Essay 5</b>	<b>Essay 6</b>	<b>Total/Average</b>
word	2849	3230	2946	3052	2815	5300	20,192
word average	949.67	1076.67	982	1017.33	938.33	1766.67	6730.67
<b>verbal token</b>	<b>521</b>	<b>496</b>	<b>460</b>	<b>428</b>	<b>431</b>	<b>1041</b>	<b>3377</b>
<b>IndPres</b>	320	240	246	178	240	387	1611
IndPres %	<b>61.4%</b>	<b>48.38%</b>	<b>53.48%</b>	<b>41.59%</b>	<b>55.68%</b>	<b>37.17%</b>	<b>47.7%</b>
Errors	10–3.1%	7–2.9%	2–.81%	5–2.8%	4–1.7%	12–3.1%	40–2.5%
<b>PC</b>	40	75	51	109	28	256	559
PC %	<b>7.78%</b>	<b>15.12%</b>	<b>11.16%</b>	<b>25.46%</b>	<b>6.49%</b>	<b>24.61%</b>	<b>16.6%</b>
Errors	5–12.5%	0–0%	2–3.9%	5–4.6%	1–3.6%	13–5.1%	<b>26–4.6%</b>
<b>IMP</b>	21	64	64	31	2	109	291
IMP %	<b>4.03%</b>	<b>12.9%</b>	<b>13.91%</b>	<b>7.24%</b>	<b>0.46%</b>	<b>10.47%</b>	<b>8.62%</b>
Errors	1–4.76%	4–6.25%	19–29.7%	3–9.7%	0–0%	5–4.6%	32– 10.9%
<b>InfPres</b>	112	91	76	78	72	197	626
InfPres %	<b>21.5%</b>	<b>18.34%</b>	<b>16.52%</b>	<b>16.22%</b>	<b>16.71%</b>	<b>3.58%</b>	<b>18.53%</b>
Errors	8–7.1%	9–9.9%	4–5.3%	3–3.8%	0–0%	2–1.0%	<b>26–4.2%</b>
<b>PartPres</b>	3	3	3	5	3	6	23
PartPres %	<b>0.57%</b>	<b>.60%</b>	<b>0.65%</b>	<b>1.16%</b>	<b>0.69%</b>	<b>0.57%</b>	<b>0.68%</b>
Errors	0–0%	0–0%	1–33.3	0–0%	0–0%	0–0%	1–4.3%
<b>CondPres</b>	3	3	3	2	13	19	43
CondPres %	<b>0.57%</b>	<b>.60%</b>	<b>0.65%</b>	<b>0.46%</b>	<b>3.02%</b>	<b>1.82%</b>	<b>1.27%</b>
Errors	0–0%	1–33.3%	2–66.7%	1–50%	0–0%	3–15.8%	7–16.3%
<b>SubjPres</b>	4	5	3	5	8	16	41
SubjPres %	<b>0.76%</b>	<b>1.0%</b>	<b>0.65%</b>	<b>1.16%</b>	<b>1.86%</b>	<b>1.53%</b>	<b>1.21%</b>
Errors	1–25%	1–20%	0–0%	0–0%	0–0%	2–12.5	4–9.7%
<b>PQP</b>	2	7	3	8	0–0%	12	32
PQP %	<b>0.38%</b>	<b>1.41%</b>	<b>0.65%</b>	<b>1.86</b>	<b>0.0%</b>	<b>1.15%</b>	<b>0.94%</b>
<b>Future</b>	3	2	7	3	57	15	87
Future %	<b>0.57%</b>	<b>0.40%</b>	<b>1.52%</b>	<b>0.7%</b>	<b>13.22%</b>	<b>1.44%</b>	<b>2.57%</b>
Errors	2–66.7%	1–50%	0–0%	1–66.7%	0–0%	2–13.3%	6–6.9%
<b>FutPro</b>	9	2	1	2	3	8	25
FutPro %	<b>1.72%</b>	<b>0.40%</b>	<b>0.21%</b>	<b>0.46%</b>	<b>0.69%</b>	<b>0.77%</b>	<b>0.74%</b>
Errors	2	0–0%	0–0%	0–0%	0–0%	0–0%	2–8.0%
<b>InfPast</b>	3	2	0	5	3	7	20
InfPast %	<b>0.57%</b>	<b>0.40%</b>	<b>0.0%</b>	<b>1.16%</b>	<b>0.69%</b>	<b>0.67%</b>	<b>0.59%</b>
<b>CondPast</b>	0	0	0	1	0	3	4
CondPast %	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.23%</b>	<b>0.0%</b>	<b>0.29%</b>	<b>0.12%</b>
<b>PresProg</b>	0	0	1	0	1	0	2
PresProg %	<b>0.0%</b>	<b>0.0%</b>	<b>0.21%</b>	<b>0.0%</b>	<b>0.23%</b>	<b>0.0%</b>	<b>0.06%</b>
<b>SubjPast</b>	0	0	0	0	0	1	1
SubjPast %	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.09</b>	<b>0.03%</b>
<b>Imperative</b>	1	0	0	0	1	1	3
Imperative %	<b>0.19%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.23%</b>	<b>0.09</b>	<b>0.89%</b>
<b>Past participle</b>	0	2	0	1	0	0	3
Past participle %	<b>0.0%</b>	<b>0.40%</b>	<b>0.0%</b>	<b>0.23%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.89%</b>
<b>InfPresProg</b>	0	0	2	0	0	0	2
InfPresProg %	<b>0.0%</b>	<b>0.0%</b>	<b>0.43%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.06%</b>
<b>ImpProg</b>	0	0	0	0	0	3	3
ImpProg %	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.29%</b>	<b>0.89%</b>
<b>RecentPast</b>	0	0	0	0	0	1	1
RecentPast %	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.09</b>	<b>0.03%</b>

The ‘words’ column corresponds to the total number of words produced; the ‘verbal tokens’ column lists the total number of verbal tokens produced. Then, for each form, the first line corresponds to the number of tokens produced, while the second line gives the percentage for that form out of the total number of verbal tokens produced; the third line gives the number and percentage of erroneous forms (if there were no errors, that line was omitted). Thus, for instance, in essay 1, the L1 English group produced 1289 verbal tokens and 815 or 63.22% were indicative present; 36 or 4.41% were erroneous (i.e., they should have been in another form given the context in which it was produced)<sup>6</sup>.

The ‘words’ and ‘verbal tokens’ columns show that the participants’ production only varied slightly except for the last essays that are longer. They are very prolific in terms of different forms (between 5 and 19 different forms). However, the majority of the tokens are in the indicative present (52% average across the 6 essays) followed by *passé composé* (15.9%), infinitive present (14.5%), and then *imparfait* (9.6%). Participants do produce a few tokens of less commonly used forms such as *plus-que-parfait* (between 0 and 15 tokens), and the subjunctive present (between 7 and 24). It is also noteworthy that participants distinguish between two ways of expressing future temporality: Simple future (e.g., *le musicien jouera demain* ‘the musician will play tomorrow’) and near future (e.g., *le musicien va bientôt jouer* ‘the musician is about to play’).

The HL French group’s productivity was also relatively the same for the first five essays and much greater for the final essay both in terms of total number of words and verbal tokens. Indicative present is the most frequent form (45.6% average) followed by infinitive present (20.85%), *imparfait* (14.2%), and *passé composé* (11.6%).

They averaged between 7.75 and 11.75 forms per essay with a total of 17 different forms. They also used the subjunctive present (0.08%) and *plus-que-parfait* (1.06%), but both forms represent a very small percentage of their overall production. Note that their past temporality includes *passé simple* and that their future temporality is expressed by simple future and near future with a preference for the former.

The HL Spanish group’s performance to the other two groups is similar in terms of productivity as displayed in Table 4.

The HL Spanish group’s last essays were longer, they averaged 9.3 forms across the 6 essays and used up to 19 different morphological forms. Most verbal tokens are indicative present (47.7% average), followed by infinitive present (18.5%), *passé composé* (16.6%), and *imparfait* (8.62%). They produce a total of 32 tokens with *plus-que-parfait* (94% of total verbal tokens), and 41 with subjunctive present (1.21%). In expressing future temporality, they also distinguish between simple future with a total of 87 verbal tokens (2.6%) and near future with 24 verbal tokens (0.74%). Pairwise comparisons reveal that regarding the number of verbal tokens produced, the only significant difference is between the HL French group and the L1 English group ( $p = 0.007$ ).

A Pearson  $\chi^2$  analysis performed with nine forms revealed a significant difference (Pearson  $\chi^2 = 304.162$ ,  $df = 16$ ,  $p < 0.000$ )<sup>7</sup>. A follow-up Tukey Post Hoc test indicated that there is no statistical difference between groups for subjunctive present or *plus-que-parfait*, but there is a statistical difference ( $p = 0.05$ ) for: (a) *passé composé*, *imparfait*, infinitive present, present participle, and conditional present (L1 English, HL Spanish  $\neq$  HL French); (b) future (L1 English, HL French  $\neq$  HL Spanish); (c) indicative present (L1 English  $\neq$  HL French, HL Spanish).

<sup>6</sup> The abbreviations used for the forms are as follows: IndPres (indicative present), PC (*passé composé*), IMP (*imparfait*), InfPres (infinitive present), PartPres (present participle), CondPres (conditional present), SubjPres (subjunctive present), PQP (*plus-que-parfait*), FutPro (*future proche*, near future), InfPast (infinitive past), CondPast (conditional past), PresProg (present progressive), SubjPast (past subjunctive), PS (*passé simple*), IMPProg (*imparfait* progressive), PastPart (past participle), FutProg (future progressive).

<sup>7</sup> The forms were chosen because they were either frequent (i.e., indicative present, infinitive present, *passé composé*, *imparfait*, future) or provided a temporality and/or mood contrast (i.e., subjunctive present, *plus-que-parfait*, present participle, conditional present).

Overall, all three groups were quite accurate in producing different verbal forms. Table 5 presents a summary of the number and percentage of the most frequent erroneous forms by groups. The other forms had only a total of 1–2 errors.

**Table 5.** Summary of most frequent erroneous forms.

	L1 English		HL French		HL Spanish	
	Erroneous Tokens	Percentage	Erroneous Tokens	Percentage	Erroneous Tokens	Percentage
IndPres	122	2.65%	40	1.5%	40	2.5%
PC	105	7.4%	32	4.8%	26	4.6%
IMP	45	5.2%	44	5.4%	32	10.9%
InfPres	95	7.3%	10	0.83%	26	4.2%
PartPres	9	9.2%	68	1.18%	1	4.3%
CondPres	31	19.6%	5	13.2%	7	16.3%
SubjPres	18	20.4%	0	0%	4	9.7%
PQP	6	8.1%	2	3.3%	0	0%
Future	1	0.53%	4	3.8%	6	6.9%
PastPart	5	0.56%	10	100%	0	0%

The L2 English participants produced the most errors with subjunctive present (20.4%) and conditional present (19.6%), the least with *passé composé* (7.4%) and *imparfait* (5.2%) for forms with the most tokens. The HL groups have the highest percentage of erroneous forms with conditional present (16.3% and 13.2% for HL Spanish and HL French, respectively). An error analysis conducted with a General Linear Mixed Model<sup>8</sup> revealed a significant difference for a) future ( $p = 0.007$ ) with all three groups producing the most tokens in essay 5, clearly a consequence of the topic, but with error percentages from 0.53%, 3.8%, and 6.9% for the L1 English, HL French, and HL Spanish group, respectively; b) *passé simple* for group ( $p = 0.011$ ) and an interaction of essay by group ( $p = 0.011$ ) as expected given that the L1 English group produced only four tokens in two essays, the HL Spanish did not produce any, while the HL French produced a total of 50 with a wide range between essays (1–27); both groups produced only two errors, but corresponding to 4% for HL French and 50% for L1 English; c) an interaction of essay by group for *imparfait* ( $p = 0.05$ ); the HL Spanish group ( $n = 3$ ) is much less productive (total of 291 tokens, 2–109 range, but with the highest percentage of errors at 10.9%) than the HL French group ( $n = 4$ ) (total of 817 tokens, 22–319 range, 5.4% errors) and the L1 English group ( $n = 9$ ) (total of 869 tokens, 39–322 range, 5.2% errors).

Some of the subjunctive forms were ambiguous in that it could not be distinguished from an indicative form (e.g., *il faut que tu restes* ‘you have to stay’, *restes* is both indicative and subjunctive present) as opposed to indicative and subjunctive present inflections presenting clear contrasts (e.g., *il faut que tu partes* ‘you have to leave-SUBJPRES’ vs. *quand pars-tu* ‘when are you leaving-INDPRES’). This is the case for all the verbs ending in *-er* at the infinitive except for first and second plural forms.

The percentage of ambiguous forms across essays is as follows: L1 English (20.5%); HL French (36.7%), HL Spanish (43.9%). There are no statistically significant differences between groups ( $p = 0.192$ ).

## 7. Discussion

The main hypothesis according to which the participants would display a well-contrasted TAM system is supported for all three groups who: (a) Use a variety of forms to express present, past, and future temporalities with low inaccuracy percentages; (b) make appropriate aspectual distinctions in the past (i.e., *passé composé* vs. *imparfait*); (c) select different moods (i.e., indicative, subjunctive, conditional, imperative, infinitive); (d) their performance varies with the essay topics as illustrated in the following Figures 1–3. This is important to support the hypothesis of a well contrasted TAM

<sup>8</sup> A General Linear Mixed Model (GLMM) was used to test for significant differences in mean error percentage for the fixed effects of groups, essays, and their interaction. Subject intercept was used as a random effect. A separate GLMM was conducted for each error type.

system. The irregular lines showing the learners’ production from essay 1 to essay 6 indicate that they are not stuck on a plateau: Their production varies depending on the narratives they are writing even for forms they do not produce often such as the subjunctive present (e.g., 3–16 for HL Spanish) or the conditional present (e.g., 7–70 for L1 English), while the indicative present use varies as well.

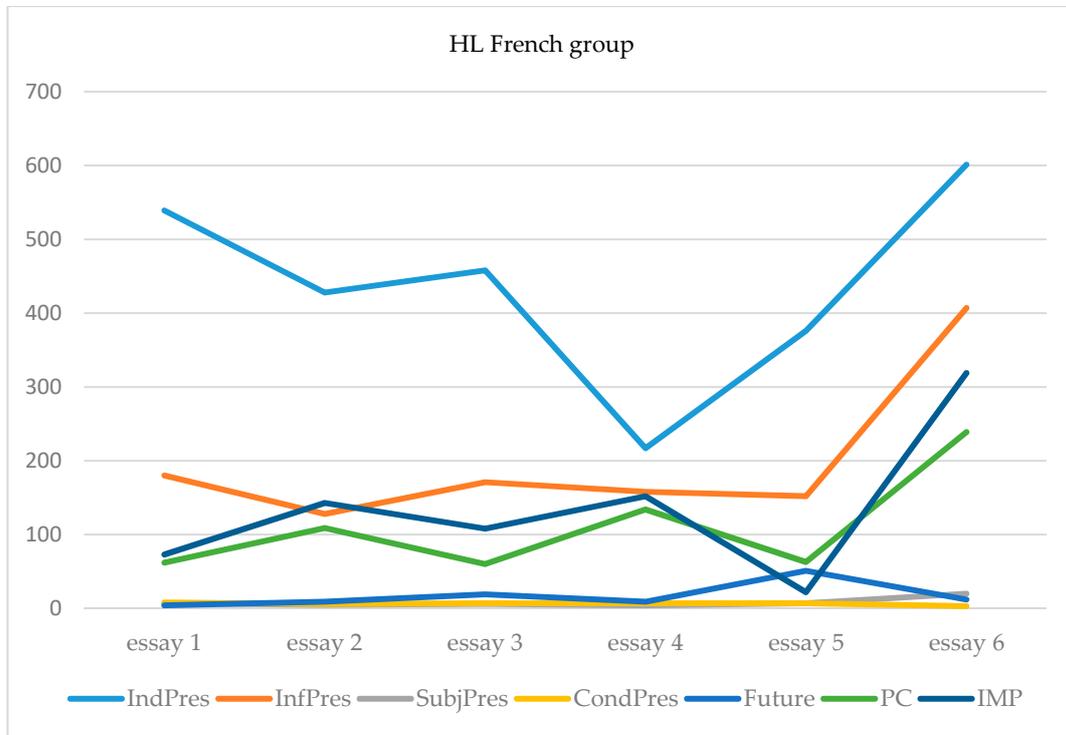


Figure 1. Forms used across essays (HL French group).

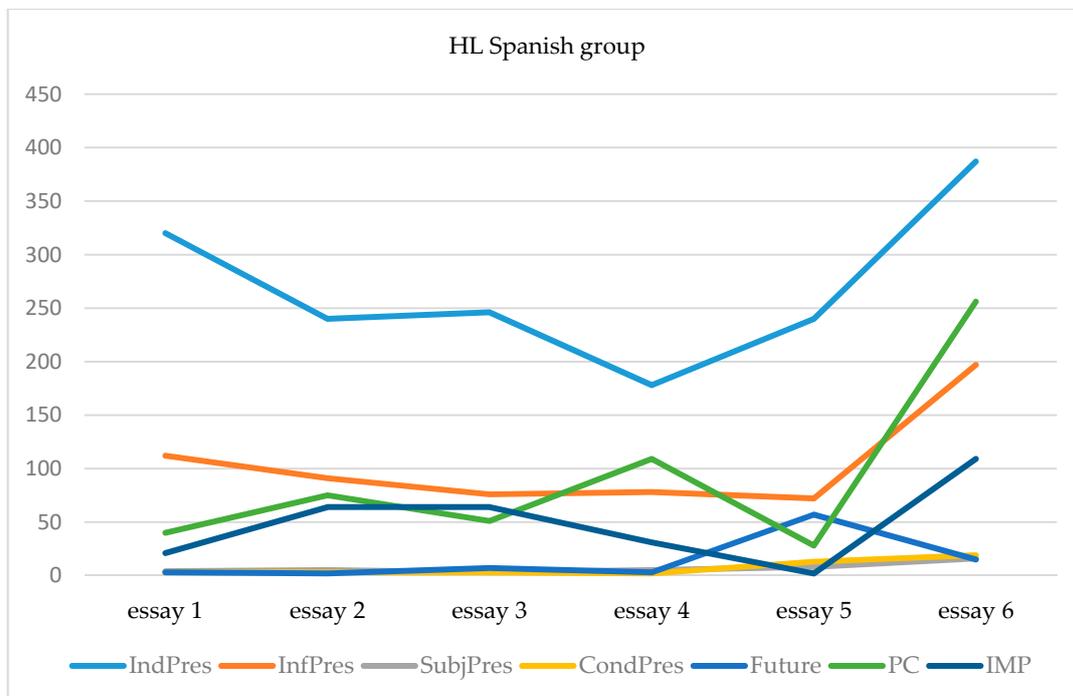


Figure 2. Forms used across essays (HL Spanish group).

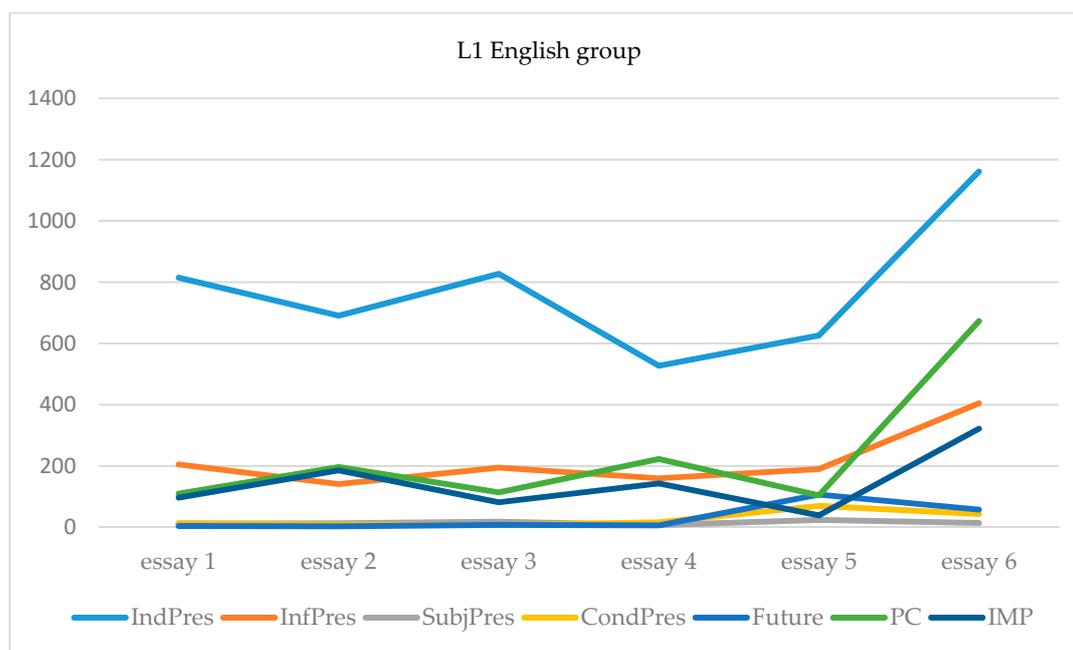


Figure 3. Forms used across essays (L1 English group).

The following examples illustrate how participants distinguished between various moods and forms.

13. *Une âme sœur est-INDPRES quelqu'un qu'on aime-INDPRES, et qui nous aide-INDPRES à devenir- INFPRES la meilleure personne qu'on puisse- SUBJPRES être-INFPRES.* A soulmate is someone we love and who helps us to become the best person we can be'.
14. *Donc la mort de Renée n'est-INDPRES pas inutile parce qu'elle a- INDPRES un but, la mort de Renée permet- INDPRES que Paloma vive-SUBJPRES.* 'So Renée's death is not useless because it has a goal, Renée's death allows Paloma to live'.

Both (13) (essay 3, HL French) and (14) (essay 3, HL Spanish) show that the participants differentiate between the indicative and subjunctive present. (13) also illustrates that this participant distinguishes between finite and non-finite forms as all three groups did in appropriate contexts such as after a finite verb or a preposition, as in (15) and (16), respectively (essay 4, L1 English).

15. *Tandis que tous les policiers déshumanisent-INDPRES les juifs, un policier écoute- INDPRES Sarah et la laisse-INDPRES s'échapper-INFPRES du camp.* 'While all the policemen dehumanize Jews, one policeman listens to Sarah and lets her flee the camp'.
16. *Les concierges qui ont- INDPRES du courage et de la sympathie pour les familles juives et ceux qui ont- INDPRES peur des policiers et qui sont-INDPRES coupables de dénoncer- INFPRES les familles.* 'Building managers who are brave and feel for the Jewish families, and those who are afraid of the policemen and who are capable of denouncing families'.

These examples also partially explain why the indicative present accounts for over half of the verbal tokens: It is used for descriptions even in past contexts. An example of a rare exception of an erroneous nonfinite form appears in (17):

17. *Quand elle est arrivée, elle a demandé de voir M. Lamarc, elle a dû attendre seulement quelques minutes pour lui \*apparaître-INF et \*mener-INF elle à son bureau* (essay 5, L1 English group) 'When she arrived, she asked to see Mr. Lamarc, she only had to wait a few minutes for him to appear and show her to his office'

In this complex sentence with seven verbal tokens, *apparaître* and *mener* are erroneously nonfinite, but it is likely due to a negative L1 transfer since nonfinite forms are appropriate in English and not to the inability to distinguish between finite and nonfinite forms<sup>9</sup>.

The next examples show how the same L1 English participant can use verbs with *plus-que-parfait* appropriately in (18) and (19), including a past conditional (and a passive voice), but not in (20) (essay 4).

18. *Si Julia n'avait pas trouvé-PQP le secret de la famille de son mari, sa vie n'aurait sans doute pas été touchée-CONDPAST.* 'If Julia had not found her husband's family, it would probably not have changed her life'.
19. *Parce que leur famille avait déménagé-PQP dans l'appartement de Sarah il y a plusieurs années, Julia avait trouvé-PQP le lien vers les deux familles.* 'Because her family had moved into Sarah's apartment several years ago, Julia had found the connection between the two families'.
20. *Peut-être que si l'Holocauste n'a pas eu lieu-\*PC/PQP, Sarah aurait vécu-CONDPAST une longue vie innocente.* 'Maybe, if the Holocaust had not taken place, Sarah would have lived a long, innocent life'.

(18) also illustrates that participants generally used *passé composé* instead of *plus-que-parfait*.

In expressing future temporality, participants typically used simple future as in (21) (essay 5, HL Spanish participant), but also near future as in (22) (essay 5, L1 English participant).

21. *Dans cette partie, on apprendra-FUT une chose secrète de chaque personnage et Jeannot révèlera- FUT son vrai nom.* 'In this part, we will learn a secret about each character and Jeannot will reveal his real name'.
22. *Dans mon film, je vais changer-FUTPRO le rôle de Marcel Langer un peu, et l'acteur qui peut-INDPRES compléter-INDPRES ce personnage est-INDPRES Gerard Butler.* 'In my movie, I'm going to change the role of Marcel Langer a bit, and the actor who can complete this character is Gerard Butler'.

It thus appears that at least at times, our participants may have started to acquire forms that they do not yet produce very often because their writing does not create the discursive contexts that would require them. However, they are able to produce complex sentences that combine different temporalities as in (23) (essay 4, HL French participant).

23. *Par contre, le petit frère de Sarah n'avait pas été trouvé-PQP, car il s'était caché-PQP et Sarah nous racontera-FUT les malheurs et sentiments qu'elle a ressentis-PC durant plus d'un mois.* 'On the other hand, Sarah's little brother was not found because he hid and Sarah will tell us about the misfortunes and feelings she experienced for over a month'.

This participant wrote a complex sentence in a past context using four verbal tokens with two past forms—*plus-que-parfait* and *passé composé*—but also with simple future for one token, demonstrating the ability to use two different temporalities in a single sentence.

The first prediction that participants would perform better and rely more on the indicative present and *passé composé* was confirmed since the former averaged 47%, 49%, and 52% in the total production of the HL French, HL Spanish, and L1 English groups, respectively. It is not confirmed as strongly for the *passé composé* that is indeed used more often than the *imparfait* or the *plus-que-parfait* to express past temporality, but not overwhelmingly so.

The second prediction is confirmed by a highly accurate production of verbal tokens with very low percentages of erroneous forms. All three groups made the most errors with conditional present.

<sup>9</sup> The appropriate verbal forms would be: *Quand elle est arrivée, elle a demandé de voir M. Lamarc, elle a dû attendre seulement quelques minutes pour qu'il apparaisse-SubjPres et la mène-SubjPres à son bureau.*

24. *Quand sa famille a été soudainement arrêtée-PC pour la déportation, Sarah a verrouillé-PC son petit frère Michel dans le placard de sorte qu'il serait-\*CONDPRES sûr et caché jusqu'à ce qu'elle puisse- SUBJPRES retourner-INFPRES le sauver-INFPRES.* 'When her family was suddenly arrested to be deported, Sarah locked up her little brother Michel in the closet so that he would be safe and hidden until she could come back and save him'.

In (24), out of six finite and nonfinite verbal tokens (essay 4, L1 English), only one is erroneously used with conditional present instead of subjunctive present (i.e., *serait* instead of *soit*) that she does know (i.e., *puisse*). In (25) (essay 5, L1 English), out of four finite and nonfinite forms, the conditional present form (*changerais*) is again the only erroneous one.

25. *J'ai bien aimé-PC le livre, mais pour l'adapter-INFPRES pour le cinéma il faut-INDPRES que je changerais-\*CONDPRES/SUBJPRES plusieurs parties de l'histoire.* 'I liked the book, but to turn it into a movie, I need to change several parts of the story'.

In (26) (essay 3, L1 English), *a travaillé-\*PC* should be *travaille-INDPRES* as *depuis* triggers indicative present because although the event is anchored in the past, it is still ongoing.

26. *Renée est-INDPRES une veuve et concierge qui a travaillé-\*PC/INDPRES dans l'appartement depuis 27 ans, mais elle cache-INDPRES qu'elle aime- INDPRES la philosophie, la littérature, la gastronomie et la musique classique parce qu'elle croit- INDPRES que les residents ne voudraient-CONDPRES pas cela.* 'Renée is a widow and building manager who has been working for 27 years, but she hides that she likes philosophy, literature, gastronomy, and classical music because she thinks that the residents would not like it'.

The exemple in (27) (essay 2, HL French) shows how *plus-que-parfait* is used inconsistently, replaced by *passé composé*, although it is appropriately followed by two other past forms.

27. *François avait toujours imaginé-PQP que ses parents sportifs se sont rencontrés-\*PC/PQP au bord de la piscine ou au stade et qu'il avait-IMP un frère, jusqu'un jour il a appris-PC la vérité.* 'François had always imagined that his athletic parents had met by the pool or the stadium and that he had a brother until he learned the truth one day'.

Finally, the last prediction according to which an L1 facilitative effect would be found is partially confirmed for the HL French, but not for the HL Spanish participants. The former outperformed the other groups in terms of productivity, accuracy, and variety of forms used, but their performance was inconsistent. A positive transfer does not appear to be favoring the HL Spanish participants whose performance on *passé composé* and *imparfait* instantiating the perfective-imperfective distinction as in Spanish varies quite a bit as does their performance on the present and past subjunctive, used more frequently in Spanish than in French, with similar semantic and syntactic triggers e.g., (Fernández 2008; Izquierdo and Collins 2008)<sup>10</sup>.

Our findings are mixed regarding the Interface hypothesis. On the one hand, the participants do not exhibit persistent optionality and/or indeterminacy in their selection of moods (they use all of them appropriately) and are able to contrast the expression of realis (i.e., indicative) with the expression of irrealis (i.e., subjunctive, conditional). On the other hand, their production was lopsided in favor of the indicative and most of the triggers they used were cases of obligatory subjunctive (e.g., *bien que* 'although', *vouloir* 'want'), not of optional subjunctive such as superlatives (n = 3) or indefinite

<sup>10</sup> The Sonoran Mexican Spanish of our participants does not differ from European Spanish in its use of past aspectual distinctions or indicative-subjunctive alternation (Carvalho 2018, personal communication).

antecedents (they did not produce any)<sup>11</sup>. So one may argue that internal interfaces (i.e., inflectional morphology across all three temporalities) are indeed easier to acquire than external interfaces (i.e., mood selection). There is stronger and more reliable evidence for the former than the latter from this dataset. A free production task shows what participants are comfortable producing, but it allows them to avoid forms they may feel uncertain about. The results of the preference/grammaticality judgment task in the longitudinal case study of Billy, an Anglophone instructed learner (Ayoun 2015), suggest difficulties with optional subjunctive. Billy preferred the indicative and incorrectly rejected the corresponding sentence with the subjunctive (e.g., *mes parents sont les seules personnes que je connais-INDPRES/connaisse-SUBJPRES ici* 'my parents are the only people I know here'). The findings from a greater number of participants at different proficiency levels from this and other forced-choice tasks such as a sentence completion task would help us determine whether external interfaces remain more difficult than internal interfaces.

## 8. Conclusions

The present longitudinal study focused on the L2 acquisition of the French TAM system by three different groups of instructed learners who benefitted from a specific, targeted input with repeated exposure. Their performance on six essays reflects high accuracy percentages and a large number of different forms as well as the complex morpho-syntax required for the subjunctive since it only occurs in subordinate clauses.

We acknowledge the limitation of a small and unequal number of participants per group, but that is offset by the benefits of controlling a targeted input. The choice of topics may have also influenced the participants' production as they may not have been equally inspired by all, although they indicated they enjoyed the novels and films. Second, it would have been interesting to collect written samples in the classroom as well, some of which could have been designed as more guided production tasks in an effort to elicit verbal forms that the participants do not spontaneously produce, but may have acquired at least to a certain degree such as *plus-que-parfait* or subjunctive present.

Future studies may want to investigate whether a different pedagogical approach would lead to a different outcome. In the present study, instructor-led discussions focused on the content of the novels. Recasts were used to implicitly signal to the learner when a form was not target-like, but without interrupting the flow of the interaction, so there was no explicit focus on forms. Although implicit negative feedback in the form of recasts has been empirically proven to be effective e.g., (Li 2010) but see (Ellis and Sheen 2006) for a critical review, meta-analyses strongly suggest that explicit instruction may be more effective than implicit instruction (Norris and Ortega 2000). More specifically, an oral and written treatment was significantly more effective than written treatments alone in either implicit or explicit conditions (Norris and Ortega 2015).

Future studies should administer both oral and written explicit feedback. In the specific case of L2 French, explicit instruction may be useful for difficult aspectual distinctions, mood alternations, and less frequently used forms (i.e., *plus-que-parfait*, future perfect) along with less morphologically salient forms (e.g., subjunctive forms of verbs ending in *-er*) and non-prototypical forms as suggested elsewhere e.g., (Blyth 2005). Yang and Lyster (2010) offer encouraging results in that Chinese-speaking learners of L2 English who were provided with prompts showed greater accuracy in post-tests in producing regular past tense forms. However, learners do not necessarily notice all the written corrective feedback they receive, and the linguistic accuracy of their revised output may depend on the type of errors and feedback (Cerezo et al. 2019).

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<sup>11</sup> The 160 subjunctive tokens were used with the following triggers: *de sorte que* (n = 1), *afin que* (n = 2), *après que* (n = 1)—although it is followed by the indicative in prescriptive grammars, French native speakers use it with the subjunctive—*bien que* (n = 26), *avant que* (n = 6), *pour que* (n = 14), *jusqu'à ce que* (n = 17), *que* (n = 20), *falloir* (n = 6), *aimer* (n = 3), *souhaiter* (n = 1), *vouloir* (n = 34), *ne pas croire* (n = 1), *le fait que* (n = 2), noun/adjective *que* (n = 23), superlative (n = 3).

It would thus be helpful to continue investigating the L2 acquisition of TAM systems from an Interface hypothesis perspective with a combination of written and oral elicitation tasks such as cloze tests, production tasks followed by explicit feedback, as well as preference and grammaticality judgment tasks; an interpretation task that would present a short paragraph followed by a comprehension question to be answered in two or three sentences could be insightful as well. It would be interesting to see if the Interface hypothesis can be extended beyond promising current findings for Spanish subjunctive e.g., (Ahern et al. 2016; Borgonovo et al. 2015; van Osch et al. 2017).

**Funding:** This research received no external funding.

**Conflicts of Interest:** The author declares no conflict of interest.

## Appendix A Essays' Topics [Translated from French]

### Essay 1. Oscar et la dame rose

1. Summarize the novel in a few sentences. 2. The narrator is also the main character, how does it impact the story? What is the only exception towards the end? Why? 3. Who are the other characters and what roles do they play in Oscar's life. 4. Is Oscar a little boy like the others? 5. How old is Oscar at the end of the story? Please explain. 6. Critic the story. How did you react? Did you find answers to questions you may have had about childhood, sickness, death or God?

### Essay 2. Un secret

1. Summarize the novel in a few sentences. 2. There are several similarities between *Oscar* and *Un secret*, please choose three and explain what they are. 3. Was François a happy child? Why or why not? Who are the adults who play an important part in his life? 4. How does History play a part in the story of François' family? 5. Why could one say that the end is both dramatic and sad, but also ironic for Maxime and Tania? 6. Critic the story. How did you react? What did like, dislike? What moved you?

### Essay 3. L'élégance de l'hérisson

1. Summarize the novel in a few sentences. 2. How is this novel original? Find two or three ways. For instance, think about the narrator(s) along the story as well as the way the novel is divided in several parts. 3. The novel is full of contrasts, find and explain three of them. 4. How does the novel answer these questions: what is a life worth? What's a soul mate? Is René's death useless? 5. Did this novel change your perspective on life? What did like, dislike? What moved you?

### Essay 4. Elle s'appelait Sarah

1. Summarize the novel in a few sentences. 2. Describe the narration techniques used by the author? How do they impact the reader? 3. How did World War II change the lives of the three main families. How do they become closer after the war? 4. Find two parallels between *Un Secret* and *Elle s'appelait Sarah*. 5. What have you learned about World War II? Which character touched you the most and why?

### Essay 5. Adaptation of Les enfants de la liberté

Adapt Marc Lévy's novel into a movie by writing the script. Choose the actors for the main characters, explain your selection, that is, why are they good choices to interpret the parts?

Essay 6. Choose one of the following movies: *Il y a longtemps que je t'aime* (Claudel 2008), *Les choristes* (Barratier 2004), *La vie rêvée des anges* (Zonca 1998). Take notes as you watch it, then write a 4–6 page short story.

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