Difficulty Components in Testing the Usage of Imparfait and Passé Composé by L1 Anglophone Learners

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Цель данного исследования состоит в том, чтобы создать модель предвидения трудностей отдельных единиц при проведении тестов одного из наиболее сложных при изучении французской грамматики аспектов – употребления двух прошедших времен *passé composé* и *imparfait.* На основе категоризации глаголов Вендлера как состояния, действия, выполнения и достижения, как и на основе использования наречий и дополнительных контекстуальных индикаторов были идентифицированы двенадцать когнитивных операций, с помощью которых объясняют изучающим выбор одного из двух прошедших времен в двух cloze теста. Результаты 205 тестов были подвергнуты статистическому анализу с использованием *Linear Logistic Test Model,* чтобы определить уровень трудностей каждой когнитивной операции.

The purpose of this study was to develop a model for predicting difficulty of test items for one of the most challenging topics in French grammar, namely the use of the two past tenses *passé composé* and *imparfait*. Twelve cognitive operations were identified based on Vendler's division of verbs into four categories – states, activities, accomplishments, and achievements – on the use of adverbials, and on additional contextual indicators to explain the learners' choice of *imparfait* or *passé composé* in two cloze tasks. The results of 205 student tests were submitted to statistical analysis with the *Linear Logistic Test Model* in order to assign a difficulty „weight" to each of the cognitive operations.

Introduction

The purpose of this study was to develop a model for predicting difficulty of test items for one of the most challenging topics in French grammar, namely the use of the two past tenses *passé composé* and *imparfait*. Knowledge about the nature of complexity components in tests and their „weights" in a model for item difficulty prediction allows test developers and teachers to construct items with difficulties known prior to administering the test, thus avoiding the piloting of individual items in study groups. It also helps match item difficulty to student ability levels, develop teaching strategies that target specific cognitive and processing characteristics of the students'

response style, and improve the validity of assessing the correct use of *imparfait* and *passé composé*.

Previous research in language learning dealing with statistical prediction of item difficulty has been conducted primarily in reading comprehension (cf. Embretson, Wetzel 1987; Dimitrov, Raykov 2003; Kubinger 2009; Perkins, Brutten 1993). In this study we developed a model for predicting the difficulty of items that test the acquisition of *passé composé* and *imparfait* using the Linear Logistic Test Model with variables that are easy to specify. This model provides a parsimonious perspective on sources of difficulty in the test items under scrutiny and reduces specification errors. The results of this study can help language instructors develop tests that match the ability of the students more accurately.

Background & Literature Review

The usage of two past tenses in French – *passé composé* and *imparfait* – is one of the stumbling points for native speakers of English trying to master the French language. The difficulty of choosing correctly one of these past tense forms over the other has been reported in the literature concerning not only beginners but also relatively advanced anglophone learners (cf. Ayoun 2001; Dansereau 1987; Harley 1989; Kaplan 1987; Salaberry 1996). The correct alternation of *passé composé* and *imparfait* is considered one of the highlights of mastering the French language. Not only does it allow the learner to describe and narrate in the past, it also conveys sophistication of expression that is particularly important to native speakers. In fact, it has been noted that native speakers of French have a low threshold of tolerance for errors concerning these two forms (Cox 1994). Mistakes are frowned upon and the fragile ego of the L2 learner is easily bruised, which can lead to raising the affective filter and can make learning less enjoyable and productive.

Where do the difficulties stem from? In the first place, the category „tense“ commonly assigned to *imparfait* and *passé composé* is to an extent a misnomer. Since the difference between the two is aspectual rather than tense-related, it can easily lead to confusion (Andrews 1992; Frawley 1992). Secondly, most learners expect to be able to see a difference in the translation of the two forms, but a perfect one-to-one translation for *passé composé* and *imparfait* from French into English cannot be achieved and multiple overlaps can complicate the case (Ayoun 2001; Ayoun, Salaberry 2008). Consider the multiple valid translations for the following French sentences:

1.a. *Marie a chanté. (passé composé)*
Marie sang/ has sung.

1.b. *Marie chantait. (imparfait)*
Marie was singing/ sang/ used to (would) sing.

Thirdly, learners usually prefer assigning one of the forms under examination per verb, relying heavily on the internal semantic aspect of the verb (Bardovi-Harlig 2000; Harley 1989). In reality, however, even though verbs with different lexical aspects show affinity for one of the two forms, both *passé composé* and *imparfait* can be used with any verb in French.

Finally, rules and explanations in most traditional textbooks are long and confusing. They do not take into account different usage and they leave room for many exceptions (Dansereau 1987). We will briefly review here some of the sources of difficulty for anglophone learners.

French/English tense and aspectual systems

Tense and aspect are categories affecting the verb. They are both related to the notion of time, albeit in different ways. Of these two categories, tense is the easier to explain and understand because of its relatively straightforward relation to an external reference point. Tense is a deictic category, locating events in time by referencing them to the moment of speech and arranging them in a relative order. The main subdivisions of tense are present, past and future, with most languages using the three of them, but some reducing the differences to a binary opposition such as past/nonpast or future/nonfuture. Aspect, on the other hand, is unaffected by external time and is relative to a situation and the interval associated with it on its internal time line (Comrie 1976). Frawley (1992: 294) refers to it as „the nontemporal internal contour of an event." The confusion between external and internal time is one of the reasons for frequent misunderstandings when dealing with aspect and tense. The difference between *passé composé* and *imparfait* is a case in point.

Some of the major aspects available to the world languages are perfective/imperfective, telic/atelic, punctual/durative, iterative, semelfactive, progressive, and habitual (Frawley 1992). In addition, many languages make use of less frequently encountered aspects such as inceptive, terminative, prospective, retrospective, and intensive. Neither English, nor French have a productive distinction of morphological nature when it comes to perfective/imperfective differences as some other world languages do, e. g. the group of Slavic languages. For example, in Bulgarian, Russian, or Polish, a prefix or a change in the verb root indicates the perfective/imperfective opposition. Compare the two sentences in Bulgarian:

2.a.	*Прочет*	*-ох*	*книгата.*
	Read 1p. sg. / Perf	*Past*	*the book.*
2.b.	*Чет*	*-ях*	*книгата.*
	Read 1p. sg. / Imperf	*Past*	*the book.*

to the same in English:

3.a. *I (have) read the book.*
3.b. *I was reading the book.*

where the perfective/imperfective distinction is achieved through the use of two different verb tenses.

Both French and English, deficient in perfective/imperfective morphology mark tense and aspect in the past, but in a different way. Compare again:

1.a. *Marie a chanté. (passé composé)*
Marie sang/ has sung.

1.b. *Marie chantait. (imparfait)*
Marie was singing/ sang/ used to (would) sing.

Whereas the *passé composé* corresponds roughly speaking to the simple past or to the present perfect, the *imparfait* corresponds to the past progressive, the simple past, or the „used to/would" structure. The overlap in meanings makes teaching these two tenses through translation inappropriate. The opposition perfective / imperfective exhibited in French by *passé comosé/imparfait* does not have a good match in the English verb forms. As Andrews (1992: 287) points out:

> *in French … the two forms,* ***passé composé/passé simple*** *v.* ***imparfait****, correspond exactly to the aspectual distinction perfective v. imperfective; in English, however, not only does the contrast between forms occur much further in the imperfective category, the different forms Simple Past v. Past Progressive reflecting the aspectual distinction nonprogressive v. progressive, but there is not exact correspondence between forms and aspects; as the Simple Past (he ate) covers not only the perfective aspect but also a great deal of the imperfective aspect (habitual and nonprogressive aspects), the language is therefore in many cases not distinguishing between perfective and imperfective situations the way French does.*

The Figure 1 (p. 22) from Ayoun and Salaberry (2008) illustrates the differences between the two languages.

The grammatical aspect for most past tense French verbs is, therefore, a choice between perfective (*passé composé*) and imperfective (*imparfait*). In the perfective, the situation presented by the verb is viewed as a single whole with beginning, development, and end in one, in the imperfective the verb is viewed as referring to the internal temporal structure of this same situation (Comrie 1976).

But one more aspectual form plays a role in the choice of past tense in French – the lexical or semantic (inherent) aspect of the verb. Whereas grammatical aspect is external to the verb, lexical aspect has to do with the meaning of the verb. Vendler (1967) came up with four distinct categories corresponding to the four possible lexical aspects for verbs: states, activities, accomplishments, and achievements. The Vendler categories have been used ever since by most researchers working in this domain (Andersen 1989, 1991; Bardovi-Harlig 2000; Bardovi-Harlig, Bergström 1996; Binnick 1991; Salaberry 1996). The Vendler classification utilizes three features to account for the four lexical aspects: dynamicity, telicity, and punctuality. Dynamic verbs (activities, accomplishments, and achievements) are all distinguished from static verbs (states) by the feature of dynamicity, which the former possess and the latter do not.

Compare:

4.a. *Je suis heureuse.*
I am happy. (state)

4.b. *Je mange.*
I eat. (activity, dynamic)

Telic verbs (accomplishments and achievements) lead the verb action to a specific endpoint as opposed to atelic verbs (activities and states), which do not have such an endpoint. Compare:

	FRENCH		
Passé composé		**Imparfait**	
Perfective	**Imperfective**	**Iterative**	**Habitual**
Ex. Elle a lu un roman.	*Ex.: Elle lisait un roman.*		
She read a novel.	*She read a novel./ She was reading a novel*		
	ENGLISH		
	Simple Past		**Past Progressive**
Perfective	**Imperfective / Habitual**		**Progressive**
Ex. She read.	*Ex.: She read. /She used to read.*		*Ex: She was reading.*

Figure 1. Aspectual Distinctions in French and English

5.a. *Je mange une pomme.*
I eat an apple. (accomplishment)

5.b. *Je mange.*
I eat. (activity)

Finally, punctual verbs – achievements – refer to the beginning or the end of an action and are viewed as reduced to a point, completely deprived of duration, whereas all other verbs have a component of duration (Bardovi-Harlig, Bergström 1996).

Compare:

6.a. *J'entre dans la salle.*
I enter the room. (achievement)

6.b. *Je mange une pomme.*
I eat an apple. (accomplishment)

Table 1 (p. 23) gives a summary of the features exhibited by the four Vendler verb categories.

The Aspect Hypothesis

The aspect hypothesis, formulated by Andersen and Shirai (1994), is related to research in L1 and pidgin-creole languages. Studies in primary languages have shown that children are influenced by the lexical aspect of a verb in the process of encoding past verb morphology. In their 1973 paper Bronckart and Sinclair investigated the usage of past tense in an experimental production task of 74 French children whose ages ranged from 2,11 to 8,7. In the experiment the subjects used *passé composé* for actions with a clear end point and *présent* (present tense) for events with inherent duration.

Table 1. Features Characteristic of the Four Vendler Verb Categories

Category/Feature	Dynamicity	Telicity/Endpoint	Duration
State	-	-	+
Activity	+	-	+
Achievement	+	+	-
Accomplishment	+	+	+

Imparfait came up only on rare occasions. The researchers hypothesized that before the age of 6, children see the aspectual difference between perfective and imperfective events rather than the temporal relationship between action and the moment of speech.

Second language acquisition aspect studies led by Andersen and his followers also pointed out that „in beginning stages of language acquisition only *inherent aspectual* distinctions are encoded by verbal morphology, not tense or grammatical aspect" (Andersen 1991: 307, emphasis in the original). After multiple modifications, the current formulation of the Aspect Hypothesis reads as follows: „First and second language learners will initially be influenced by the inherent semantic aspect of verbs or predicates in the acquisition of tense and aspect markers associated with or/affixed to these verbs" (Andersen, Shirai 1994: 133).

The Aspect Hypothesis explains the non-native like distribution of verb tense/aspect morphology across the four Vendler categories in the interlanguage of L2 learners. Learners will more readily associate perfective markers (*passé composé*) with telic verbs (achievement and accomplishment), because these verbs contain an endpoint in their semantics. By the same token, learners will more readily associate imperfective markings (*imparfait*) with verbs of state, which exhibit an inherent lexical aspect of incompleteness. Salaberry (1996) describes these two preferences as prototypical or unmarked. However, native speakers' language is characterized by the usage of non-prototypical combinations as well and these are the ones learners have difficulty mastering.

Accurate, native-like usage of grammatical aspect evolves in L2 learners from prototypical to non-prototypical combinations in eight stages (Andersen 1991). At stage one, learners do not mark tense, nor do they mark aspect. At stage two, they use perfective with punctual verbs only, at stage three – imperfective with stative verbs only. At stage four markings move toward less prototypical cases to include accomplishments for perfective and activities for imperfectives. From stage five on, classes of verbs are gradually allowed with both grammatical markings – at stage five accomplishments can be used with perfective or with imperfective, at stage six, seven, and eight it is respectively activities achievements, and states that are allowed with both markers.

Nevertheless, it should be noted that verbal morphology is the end-point of the development of expression of temporality. At the beginning, learners resort to other devices, namely pragmatic and lexical ones. A whole group of studies, called „meaning-oriented studies" brings evidence to this effect (Bardovi-Harlig 2000; Wulff, Ellis,

Römer, Bardovi-Harlig, Leblanc 2009). The pragmatic means of expressing temporality include scaffolding, implicit reference, contrasting events, and chronological order (Schumann 1987) with learners sometimes using more than one device at a time. The lexical means of expressing temporality and their primacy over the pragmatic means characterize the second stage of acquisition of temporality. At this lexical stage the verbs appear in their base or default form (infinitive for French). The lexical means comprise connectives such as *and*, *because*, and *so* and adverbials – locative (*here*, *in my country*) and temporal (*yesterday*, *then*, *after*). Temporal adverbs fall into four categories: position (*now*, *then*, *yesterday at six*), duration (*for years*, *all month*), frequency (*three times*, *very often*), and contrast (*yet*, *already*) (Bardovi-Harlig 2000). The first three categories are usually acquired earlier with the number of their members increasing progressively. Adverbs of contrast appear later. Lexical means of temporal expression continue to be of great importance for the learners even after the emergence of verbal morphology. Lexical devices, particularly adverbials, are heavily relied upon in learner production. This fact is most likely due to difficulties learners encounter in acquiring verbal morphology (Lee 1998; 1999).

Literature Review

The most recent studies on acquisition of aspect, be it in L1 or L2, tend to focus on a combination of factors responsible for successful performance in this area. As in previously reported cases, they use the aspect hypothesis as a springboard, but try to capture either the langugae-specific elements that facilitate acquisition or additional factors leading to success.

Jidong and Shirai (2010) investigated the emergence and development of aspect marking in L1 child acquisition of Mandarin. They reported a learning process based on the specifics of the Mandarin system informed by a universal association of grammatical and lexical aspect.

An extensive study of two large linguistic corpora (Wulff, Ellis, Römer, Bardovi-Harlig, Leblanc 2009) explored the relative weight of frequency, distinctiveness, and prototypicality in the L2 acquisition of aspect. Rather than attributing success to one particular factor, the study found that a combination of all factors drives aspect acquisition in the L2 language. This study is of particular importance for our investigation because of the similarity in the conceptualization of the features contributing to item difficulty.

The great majority of the studies on *passé composé* / *imparfait* compare the learners' use of these forms to the native speakers' use and look for possible explanation of the discrepancies. In her 1987 paper, Kaplan collected data from 16 anglophone learners of French through semistructured interviews. She then looked at error rates in form and distribution of *passé composé* and *imparfait* for both first and second year students. Kaplan's results showed that learners acquire *passé composé* before *imparfait* and that in many cases lexical aspects of the verb are accountable for certain choices. The author advanced several possible explanations for her results including „grammatical and semantic complexity, phonological saliency, frequency in occurrence and input, and communicative strategies" (Kaplan 1987: 58).

Harley (1989) investigated the acquisition of the aspectual difference between *passé composé* and *imparfait*. Her subjects were anglophone students in French immersion classes who received an 8-week treatment (functional approach to grammar teaching). The purpose of the treatment was to bring evidence that the learners' grammatical competence can be enhanced through focused L2 input and more opportunities for the students to express themselves in interesting and motivating tasks. Harley's posttest revealed that the experimental group outperformed the control group on two out of three tasks. However, a 3-months delayed test showed that the difference between the control and the experimental group disappeared.

In a 1996 cross-sectional study, Bardovi-Harlig and Bergström analyzed the acquisition of tense and aspect by two groups of instructed learners – learners of English as a second language and French as a foreign language. The subjects had to describe a video segment of a film in written form. Their use of verbal morphology revealed similar patterns of distribution of tense and aspect in both target languages: both groups were influenced by the lexical aspect of the verb. The authors also compared uninstructed and instructed learners and found similarities in the acquisition sequence of their verb morphology for tense and aspect. They concluded that „the development of tense / apsect systems may be part of … <the core of SLA>" (Bardovi-Harlig, Bergström 1996: 308).

Salaberry (1998) also investigated the development of tense / aspect markers in French as a second language among English-speaking learners of French at the college level. His findings corroborate the results of Bardovi-Harlig and Bergström (1996) and Kaplan (1987) regarding the influence of lexical aspect on the use of verb forms. More specifically, learners made native-like choices where prototypical use of verb morphology (correspondence of lexical and grammatical aspect) was involved, but did not use as much non-prototypical grammatical aspect as native speakers did. The study also concluded that classroom instruction might become useful for past tense aspectual marking (prototypical value) and that lack of access to L2 discursive-pragmatic conditions may hinder learners' mastery of target-like aspectual morphology.

The pedagogy of *passé composé* / *imparfait* was the target of criticism of several articles (Andrews 1992; Dansereau 1987). The fact that French and English aspectual and tense systems were fundamentally different accounted for the difficulty textbook explanations had when trying to use translation and one-to-one correspondence from one language to another as methods of teaching the two grammar forms. The difficulties stemming from this lack of correspondence were discussed and a more in-depth approach to teaching was proposed.

Ayoun (2001) tested the effectiveness of written recasts as opposed to models in the acquisition of the tense / aspect difference between *passé composé* and *imparfait*. She had three groups of learners. The recasting condition (R) received implicit negative feedback, the modeling condition (M) received pre-emptive positive evidence, and the grammar condition (G) received explicit positive evidence and negative feedback. All three groups took a pretest, were repeatedly exposed to their respective treatments, and finally took a posttest. The R group performed significantly better on the posttest than the G group, but did not surpass the M group.

Ayoun and Salaberry (2008) investigated the acquisition of English verbal morphology by advanced French learners. Their findings underscored the crucial role lexical aspect plays in the acquisition process and reported a more consistent marking of states than telic events in a task that called for narration in the past. The study offered extensive data for comparison of the acquisition of aspect in both directions – in L2 French as well as in L2 English.

Overall, studies of *passé composé* / *imparfait* acquisition have shown that it is a grammatical topic difficult to master for anglophones and that learners are influenced by the lexical aspect of the verb in their choice of grammatical form. No studies have examined, however, the item difficulty of a *passé composé* / *imparfait* grammar task, based on the psychometric structure of the items, with a relatively large number of participants. The present investigation intends to fill this gap.

Method

Participants

The subjects of the present study were 205 second-semester students of French from several mid-western universities. In most college curricula *passé composé* / *imparfait* is taught at the end of the first or the beginning of the second semester. The choice of second-semester students ensured that they had already been familiarized with these two verb forms. However, the number of participants was brought down to 146 because of the missing data in many of the participant responses. The missing data were incompatible with our model.

Instrument and procedure

The subjects were given two cloze tasks – two texts in which the verbs were supplied in parentheses in the infinitive and blanks were left immediately preceding the infinitive. The participants were instructed to fill in the correct verb form – *passé composé* or *imparfait* for each verb. The two texts – *„La Belle et la Bête"* („Beauty and the Beast", Appendix 1) and *„Le petit Chaperon rouge"* („Little Red Riding Hood", Appendix 2) were taken from different introductory French textbooks and are representative of a typical task testing the usage of *passé composé* and *imparfait* by the students. Three native speakers of French were given the same task to establish a baseline of native-like answers.

The verbs in the texts were analyzed based on Vendler's four categories. In addition, for each sentence adverbials or additional contextual indicators were identified where applicable. The four Vendler categories, the adverbials, and the additional contextual indicators were all called cognitive operations, because we hypothesized that they corresponded to a type of cognitive identification the subject had to do in order to make the decision on using *passé composé* or *imparfait*. The adverbials, the events, the description, and the additional contextual identificators were named by learners in five think-aloud protocols taken from students at random. Based on Vendler's classification and on the think-aloud protocols, the following cognitive operations were identified (Table 2, p. 27).

Table 2. Cognitive operations hypothesized to explain item difficulty for the French grammar test

№	Labels
1.	States
2.	Activities
3.	Accomplishments
4.	Achievements
5.	Imparfait
6.	Passé composé
7.	Precise moment of event
8.	Precise span of time
9.	Frequency of repetition in the past
10.	Action in progress interrupted by one-time event
11.	Event interrupting action in progress
12.	Agreement of tenses

Note: More detail on the labels is given in the text.

There were a total of 62 verb forms in the two texts. In order to avoid redundancy 25 verbs were selected to participate in the study out of the total of 62. For each verb the cognitive operations necessary for arriving at the native-like solution were marked with the number one and the cognitive operations, and those which did not participate with the number zero. Table 3 illustrates this procedure:

Results

The statistical models used in previous studies for the prediction of difficulty in reading comprehension were based on multiple linear regression (e. g., Drum, Calfee, Cook 1981; Perkins, Brutten 1993), artificial neural network (e. g., Perkins, Gupta, Tammana 1995), and the Linear Logistic Test Model (LLTM) (e. g., Embretson, Wetzel 1987).

Dimitrov and Henning (2005) applied the LLTM for the prediction of difficulty for items related to reading comprehension of essays in English for high school students. An important advantage of the LLTM (Fischer 1973) compared to multiple regression and neural network methods is that LLTM provides sample independent unbiased estimates of item difficulties and student abilities, and it allows the prediction of the item's difficulty for an individual at any specified ability level. It should be noted that LLTM is very sensitive to specification errors in relations between complexity components and items (Baker 1993).

For many testing and classroom assessment purposes there is a need for models that predict the difficulty of items from variables robust to misspecifications.

The estimates of the basic parameters of the LLTM for the 12 components of item difficulty used in this study are reported in Table 3. The chi-square goodness-of-fit test

Table 3. Weight matrix of twelve cognitive operations hypothesized to predict item difficulty for the French grammar test

Item	Cognitive operations											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
1	1	0	0	0	1	0	0	0	0	0	0	0
2	1	0	0	0	1	0	0	0	0	0	0	0
3	0	0	0	1	0	1	1	0	0	0	0	0
4	0	0	1	0	1	0	0	0	0	1	0	0
5	0	0	0	1	0	1	0	0	0	0	1	0
6	0	0	1	0	0	1	0	0	0	0	0	0
7	0	0	1	0	1	0	0	0	0	0	0	1
8	1	0	0	0	1	0	0	0	0	0	0	1
9	0	0	0	1	0	1	0	0	0	0	0	0
10	0	0	0	1	0	1	0	0	0	0	0	0
11	0	0	0	1	0	1	0	0	0	0	0	0
12	0	0	0	1	0	1	0	0	0	0	0	0
13	0	0	1	0	0	1	0	0	0	0	0	0
14	0	0	0	1	0	1	1	0	0	0	0	0
15	0	0	0	1	0	1	1	0	0	1	0	0
16	0	0	0	1	0	1	0	1	0	0	0	0
17	0	0	0	1	0	1	1	0	0	0	1	0
18	0	0	1	0	1	0	0	0	0	1	0	0
19	1	0	0	0	0	1	0	0	0	0	0	0
20	1	0	0	0	0	1	0	0	0	0	0	0
21	0	0	0	1	0	1	1	0	0	0	0	0
22	0	0	1	0	0	1	0	0	1	0	0	0
23	0	1	0	0	1	0	0	0	0	0	0	0
24	1	0	0	0	1	0	1	0	0	0	0	0
25	1	0	0	0	1	0	0	0	0	0	0	0

Note. An entry equals 1 if the cognitive operation is required for the correct answer of the item and 0, otherwise. The correct (native-like) answer for each participant was marked with a one and the incorrect answer with a zero. If the subject did not give an answer, the mark was nine.

was statistically significant (χ^2 (12) = 153,43; p < ,01) thus indicating that the LLTM model did not fully explain the Rasch item difficulties. At the same time, however, the graphical goodness-of-fit test and the Pearson correlation of ,80 between the Rasch and LLTM item difficulties indicated a practically adequate fit between the actual and predicted difficulties of the grammar items.

Moreover, all basic parameters, η_j, are statistically significant since their z-values exceed 2,00 in absolute value (see Table 4, p. 29).

In Table 4 (p. 29), negative estimates of basic parameters indicate that the cognitive operations associated with these parameters increase the item difficulty. Conversely, positive parameter estimates indicate that the cognitive operations associated with these parameters facilitate the correct answer on the respective items.

Table 4. Basic parameters for twelve cognitive operations hypothesized to explain the difficulty of items in the French grammar test

	Basic parameters	Standard error	z-value
1	-0,4937	0,0841	5,87**
2	-1,3157	0,1658	7,94**
3	0,3319	0,1070	3,10**
4	1,0913	0,1122	9,73**
5	0,4709	0,0858	5,49**
6	-0,4709	0,0858	5,49**
7	0,4042	0,1157	3,49**
8	-0,3862	0,1605	2,41*
9	-0,5930	0,1979	2,99**
10	-1,5891	0,1450	10,91**
11	-0,7406	0,1486	4,98**
12	-0,8583	0,1479	5,80**

*p < ,05; ** p < ,01

c= 0,0435

For example, the largest negative estimate (-1,5891) indicates that the operation „action in progress interrupted by a one-time event" contributed most to item difficulty. Conversely, the largest positive estimate (1,0913) shows that the operation „achievements" contributed most to item easiness.

Both Rasch and LLTM estimates of the item difficulties for the test used in this study are provided in Table 5, p. 30 (lower algebraic values indicate higher item difficulty).

Conclusion

The Linear Logistic Test Model used in this study uses the following components of item difficulty in a French *imparfait/ passé composé* test: (1) states, (2) activities, (3) accomplishments, (4) achievements, (5) *imparfait*, (6) *passé composé*, (7) precise moment of event, (8) precise span of time, (9) frequency of repetition in the past, (10) action in progress interrupted by a one-time event, (11) event interrupting action in progress, (12) agreement of tenses. All 12 difficulty components were statistically significant which validates their role in the hypothesized cognitive structure of French grammar tests. The complexity component „action in progress interrupted by a one-time event" was the strongest contributor to the difficulty. Conversely, „achievement" was the strongest contributor to the easiness of the test items. The difficulty level of „action in progress interrupted by a one-time event" is not unexpected under the circumstances of its presentation in the test. Let us recall that the most difficult verb – the verb *traverser*, „to cross" – was characterized by this complexity component. According to Vendler's (1967) categorization, the verb *traverser* is an accomplishment

Table 5. Rasch item difficulties and their predicted (LLTM) Values

Item	LLTM	Rasch
1	0,0207	0,3972
2	0,0207	-0,3671
3	1,0679	0,6672
4	-0,7429	-1,5833
5	-0,0768	-0,0486
6	-0,0966	0,7169
7	-0,0121	-0,6325
8	-0,8377	-0,3059
9	0,6638	0,8766
10	0,6638	0,8766
11	0,8638	0,5722
12	0,6638	-0,1151
13	-0,0956	0,3972
14	1,0679	0,6190
15	-0,5212	-0,0486
16	-0,2161	-0,2436
17	0,3273	0,2377
18	-0,7429	-0,4274
19	-0,9212	-1,4320
20	-0,9212	-1,4918
21	1,0679	0,9939
22	-0,6886	-0,7184
23	-0,8014	-0,8318
24	0,4248	0,4393
25	0,0207	0,6190

Note. The Pearson correlation between actual (Rasch) and predicted (LLTM) item difficulties is $r = 0{,}794$.

verb. The prototypical usage of an accomplishment verb, as reported by Salaberry (1998) is its use with *passé composé*.

This is the usage which learners master first. However, when referring to an ongoing action, this accomplishment verb (*traverser*) is conjugated in *imparfait*. The difficulty of the complexity component „action in progress interrupted by a one-time event“ stems, therefore, from the nature of the verb it characterizes. The difficulties students had with the verb *traverser* corroborate previous findings by Salaberry (1998), Anderson and Shirai (1994), and Bardovi-Halig and Bergström (1996) that lexical aspect of the verb will influence the learners' choice of grammatical aspect.

„Achievement“ was the complexity component that contributed most to the easiness of an item. Again, we have to consider this component in combination with the

tense (grammatical aspect) with which it was used. „Achievement" is one of the four Vendler (1967) categories. Its prototypical use, according to Salaberry (1998), is with *passé composé.* In the present study there were 11 verbs identified as „achievement" verbs. Six out of the eight easiest verbs in the test belong to this category. All 11 achievement verbs are among the 16 easiest verbs the test. Note that they are all conjugated in *passé composé* and are, therefore, in their prototypical usage. Thus, they confirm once again the Aspect Hypothesis (Andersen, Shirai 1994), mentioned earlier in this paper.

We have already examined the item identified as most difficult in the present test – the verb *traverser*. We would now like to concentrate on items 20 and 19, which are respectively the second and third most difficult items in our texts. These are two state verbs – *pouvoir* „can" and *avoir peur* „to be afraid", which we will most likely expect to see conjugated in *imparfait*. In the present text, however, these verbs denote not a state but a change of state and are used in a non-prototypical fashion. They are conjugated by native speakers in *passé composé*. This unusual choice of grammatical aspect, clashing with the lexical aspect, is undoubtedly responsible for the difficulty with these two verbs as in the case of the verb *traverser.*

A new element in this study was the hypothesizing of several adverbials as components of complexity for the reviewed items. The adverbials were (7) „precise moment of event indicated", (8) „precise span of time indicated", and (9) „frequency of repetition in the past indicated". According to the calculated difficulty of test items, out of 12 cognitive operations, (7) came third easiest, (8) – fifth easiest, and (9) – fifth most difficult. We are, therefore, inclined to accept the idea that certain adverbials such as „precise moment of event" and „span of time" contribute to the easiness of the reviewed grammatical items. In her book, Bardovi-Harlig (2000) treats adverbials as early, pre-verbal morphology stage of expressing temporality through lexical means. Adverbials seem to be necessary in helping the learners in their choice of grammatical aspect. Why were some adverbials (7, 8) more helpful than others (9) in our case? We believe that adverbials pointing at the choice of *passé composé* have been of better use for the learner because of the earlier acquisition of *passé composé*. On the other hand, adverbials referring to *imparfait* were less helpful because of the greater internal complexity of the tense (Andrews 1992; Kaplan 1987).

Pedagogical Implications and Suggestions for Future Research

Knowledge about the weights of the complexity components used in this study can help test developers and teachers construct test items with difficulty known prior to administering the test. This will also allow them to match item difficulties to levels of student proficiency in assessing test outcomes and develop teaching strategies that target specific characteristics of students' learning and response styles.

Teaching *passé composé* and *imparfait* is not an easy task for an instructor of French. The complexity components outlined in this paper can help the teacher analyze the underlying difficulty elements for different verbs in different situations in a more comprehensive way. Even though the complexity components may not be explicitly mentioned in the lesson in order not to burden the student, knowledge about them should inform the instructor's work. One of the most important tasks of the in-

structor, particularly with more advanced students, should be to dispel the belief that the lexical aspect of the verb is responsible for the choice of one particular grammatical aspect (in our case choice between *passé composé* and *imparfait*). The instructor should be able to give the students enough examples in which lexical and grammatical aspect are in a non-prototypical combination. In addition, adverbials should be explained as triggers for the usage of one particular tense. The clues adverbials give can be easily exploited by the learners in order to achieve native-like proficiency in this area of French grammar.

It should be noted, in the end, that further research is needed with a larger number of students, a more balanced number of different types of cognitive operations, and a larger sample of adverbials.

APPENDIX 1

Put the verbs in parentheses in *passé composé* or in *imparfait*. (The words given in parentheses in italics provide translation for some terms for your convenience):

La Belle et la Bête

Quand le marchand (*merchant*) ….....… (rentrer), il ……. (raconter, *to recount*) ses aventures à ses filles et Belle .....….. (décider) d'aller habiter chez le monstre. Quand elle ….....……. (arriver) au château, elle ….....….. (trouver, *to find*) tout ce dont (*which*) elle .....…. (avoir) besoin. Chaque jour, elle ….....…. (avoir) tout ce qu'elle ……..... …. (vouloir). Mais les cinq premiers jours, elle ..... (ne pas voir) le monstre.

Un jour, elle le .....….(voir) pour la première fois pendant qu'elle ….....…… (faire) une promenade dans le jardin. Elle le .....…. (trouver) horrible et elle ..... (crier, *to shout*). Belle ….....(avoir peur, *to be afraid of*) et elle ..... (ne pas pouvoir) regarder le monstre dans les yeux, mais elle ..... (aller) faire une promenade avec lui. La conversation ..... (être) agréable. Quand le monstre ..... (demander) à Belle d'aller faire une promenade deux jours plus tard, elle ..... (accepter).

Après ce jour-là, ils ..... (faire) une promenade chaque après-midi. Ils .....(parler) de tout. Au début, Belle ….....…. (avoir) très peur du monstre, mais finalement, elle .....… (apprendre) à avoir confiance en lui. Après un certain temps, Belle ..... (commencer) à aimer le monstre et un jour elle le (l')..... (embrasser). Tout à coup, le visage (*face*) du monstre .....… (changer). Ce..... (ne plus être) un monstre. C' ..... (être) un beau et jeune prince.

APPENDIX 2

Put the verbs in parentheses in *passé composé* or in *imparfait*. (The words given in parentheses in italics provide translation for some terms for your convenience):

Le Petit Chaperon rouge

Une petite fille ……..……. (habiter) seule avec sa mère dans une grande forêt. Elle ……..……. (ne pas avoir) de père mais sa grand-mère ..... (habiter) dans une petite maison de l'autre côté de la forêt. On ..... (appeler) cette petite fille le Petit Chaperon rouge parce qu'elle ..... (porter) toujours un chaperon rouge. Un jour, sa mère ..... (demander) au Petit Chaperon rouge d'apporter des choses à manger chez sa grand-mère. La petite fille .....… (partir) tout de suite et elle.....…. (traverser, *to cross*) la forêt quand un grand loup (*wolf*) ..... (sortir) de derrière un arbre (*a tree*).
Il.....… (avoir) très faim et il .....…. (vouloir) savoir (*to know*) où le Petit Chaperon rouge ……..... (aller) avec toutes ces choses à manger. Le Petit Chaperon rouge ..... (expliquer, *to explain*) qu'elle les ……..… (apporter) chez sa grand-mère qui ……..… (habiter) de l'autre côté de la forêt. Le loup .....….. (partir) dans la forêt et la jeune fille .....… (continuer) son chemin (*way*). Mais le loup ..... (prendre) un chemin plus court pour aller chez la grand-mère et il ……..…… (arriver) le premier. Comme la porte ..... (ne pas être) fermée, il ..... (entrer) dans sa maison et ..... (manger) la grand-mère toute entière. Quelques minutes plus tard, le Petit Chaperon rouge ……..... (entrer) dans la chambre de sa grand-mère. Il y ……..... ….. (avoir) très peu de lumière (*light*) et le Petit Chaperon rouge ……..……. (ne pas pouvoir) voir très bien. La petite fille .....… (commencer) à parler à sa grand-mère:

– Quels gros yeux tu as, grand-mère!
– C'est pour mieux te voir, ma petite chérie!
– Quelles grandes oreilles tu as, grand-mère!
– C'est pour mieux t'entendre, ma petite chérie!
– Quelles grandes dents tu as, grand-mère!
– C'est pour mieux te manger, ma petite chérie!

A ce moment – là le loup .....(sauter, *to jump*) du lit, il .....… (manger) le Petit Chaperon rouge tout entier et il ..... (sortir) de la maison. Par hasard (*by chance*), un chasseur (*a hunter*) ……..….. (passer) devant la maison. Il .....… (voir) le loup et il le ……..……. (tuer, *to kill*). Quand il ……..... (ouvrir) le ventre (*belly*) du loup, la fille et sa grand-mère ……..... (sortir) vivantes parce que le loup les avait mangées toutes entières.

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Елементи, определящи трудността на тестовете за употреба на imparfait и passé composé от англоезични студенти

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Целта на това проучване бе да се създаде модел за предвиждане на трудността на отделните единици в тестовете за един от най-сложните за изучаване аспекти на френската граматика, а именно използването на двете минали времена *passé composé* и *imparfait*. На базата на Вендлеровата категоризация на глаголите като състояния, действия, изпълнения и постижения, както и на базата на използване на наречия и допълнителни контекстуални индикатори, бяха идентифицирани 12 когнитивни операции, с които се обяснява изборът на изучаващите между *passé composé* и *imparfait* в два *cloze* теста. Резултатите от 205 теста бяха подложени на статистически анализ с Linear Logistic Test Model, за да се определи нивото на трудност на всяка от когнитивните операции. Изследването показа, че елементът „продължително действие (изразено от глагол за изпълнение), прекъснато от друго еднократно действие“ е с най-висока степен на трудност, следван от „смяна на състояние (изразено с глагол за състояние)“, докато елементът „постижение (изразен с глагол за постижение)“ е най-лесен за англоезичните студенти. Така нашите резултати предоставят доказателства за валидността на Хипотезата за Вид, формулирана от Андерсен и Шираи (Andersen, Shirai 1994), според която при избор на маркировка за граматичен вид/време, изучаващите езика ще бъдат най-силно повлияни от вътрешния (семантичен) вид на глагола. Нашето изследване въведе и нови елементи, изразени с наречия и показващи „точен момент на събитието“, „период от време“ и „честота на повторението в миналото“. От тях първите два се класираха съответно като трети и пети по лесната, показвайки, че наречията, свързани с *passé composé*, са по-полезни за изучаващия от тези, свързани с *imparfait*, най-вероятно поради по-голямата вътрешна сложност на *imparfait*. С подреждането на елементите на трудност при употребата на *imparfait* и *passé composé* резултатите от това изследване имат практическо приложение както при съставянето на тестове, така и при преподаването на двете времена.