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# From Theory to Practice
## Drawing on VanPatten's Input Processing Theory to Address Grammatical Challenges in L2 French

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**Abstract** VanPatten's Input Processing Theory (IPT) explains why second language (L2) learners often struggle to process grammatical forms from input – an essential step in Second Language Acquisition (SLA). Drawing on IPT, Processing Instruction (PI) has been shown to enhance grammar acquisition across various L2s, including French. Yet, IPT and PI have made limited inroads into L2 French pedagogical practices. To help bridge this gap between SLA research and L2 instruction, this article illustrates IPT's principles with French examples and demonstrates how they can inform the teaching of grammatical structures in L2 French.

**Keywords** Second Language Acquisition. L2 Input Processing. Focus-on-Form. Processing Instruction. L2 Grammar Acquisition. L2 French.



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## 1 Introduction

A prevailing assumption in French grammar teaching materials and classroom practices is that second language (L2) grammar instruction should consist of inductive or deductive rule presentation, followed by production-oriented activities. However, research in Second Language Acquisition (SLA) indicates that acquisition is primarily driven by exposure to meaningful and comprehensible input. Only those linguistic forms that learners detect in the input and map to meaning during L2 comprehension – a process referred to as *input processing* – can potentially be acquired (VanPatten 1996; 2020). From this perspective, asking learners to produce grammatical forms before they have had sufficient opportunities to process them during comprehension may be both premature and ineffective for developing a mental representation of language. How, then, can we better support L2 French learners as they face challenges such as the *imparfait/passé-composé* distinction or the use of the subjunctive mood?

This article argues that VanPatten's Input Processing Theory (IPT; 1996; 2020) offers a useful explanatory framework for understanding learners' difficulties in processing grammatical forms in L2 French at the initial stages of SLA. It also shows how these difficulties can be addressed through a pedagogical intervention known as Processing Instruction (PI), which is grounded in IPT. By doing so, the article seeks to bridge a gap between SLA research and classroom practice, and to advocate for a more research-informed approach to grammar instruction in L2 French.

The article opens by revisiting key SLA constructs and situating IPT within the broader theoretical landscape. It then outlines the core principles of IPT, illustrated with examples from French. This is followed by a discussion of the main components of Processing Instruction (PI) and the presentation of sample activities targeting the subjunctive in expressions of necessity. The article concludes with an overview of empirical research on PI and its effectiveness.

## 2 Defining Key Constructs in SLA and Situating IPT

Researchers across most major theoretical perspectives agree that SLA relies on four major constructs, as illustrated by the general model of SLA represented in Figure 1.

Although the operationalization of these constructs varies across SLA theories, there is a general agreement that *Input* refers to the meaning-bearing language that learners hear, read, or see in a communicative context, and which is thereby available for acquisition. Through the years, it has become widely accepted across theoretical

frameworks that input is fundamental for SLA to occur. There is also a consensus that a distinction must be made between the input learners are exposed to and the portion of that input they can actually use for acquisition. Learners simply cannot attend to all the linguistic features of the input. Therefore, they need to filter the information available to them through the act of comprehension. Only this filtered data, known as *Intake* (Corder 1967, 165) can potentially be processed further and eventually stored under the form of an implicit mental representation of language in learners' *Internal system*. *Output*, finally, refers to the language that learners can produce by drawing on the linguistic knowledge they have internalized and stored in memory. Simply put, output is the end-product of SLA, and it can only occur once input has been processed and stored as a mental representation.


**Figure 1** Leow, R. A General Model of SLA. 2015

Building on these foundational distinctions between Input, Intake, Internal System, and Output, Krashen's Monitor theory (e.g. Krashen 1985) was among the first frameworks developed specifically to account for SLA. By positing that acquisition follows a natural progression that cannot be altered by instruction, and by asserting that language is acquired through the understanding of messages in the L2 – or "by receiving comprehensible input" (Krashen 1985, 2) – Monitor Theory provided a theoretical account of how SLA occurs. It also prompted renewed reflection on the potential role of instruction in SLA.

However, the notion that input alone is a sufficient condition for acquisition has been challenged. Krashen's claims lacked robust empirical support and were met with scepticism, particularly in light of studies conducted in French immersion programs in Canada (e.g. Swain 1985), which suggested that learners may require additional support to convert grammatical input into intake. In response, Long (1991) advocated for a Focus on Form approach to L2 instruction, which integrates brief, reactive attention to a problematic grammatical feature into otherwise meaning-focused interaction, when such grammatical form disrupts communication.

VanPatten further advanced the field by offering a psycholinguistically grounded model of how learners process L2 input. His Input Processing Theory (IPT, 1996; 2020) identified the cognitive constraints and strategies involved in converting input into intake. Drawing on this theoretical foundation, VanPatten proposed

a pedagogical intervention designed to help learners attend to and process grammatical forms during input comprehension.

The following sections outline the core principles of IPT, with an emphasis on their implications for the processing of grammatical features in L2 French.

## 3 VanPatten's Input Processing Theory

While reaffirming the essential role of meaning-bearing L2 input in SLA, VanPatten acknowledges that not all input is attended to or acquired. He conceives input processing as an online phenomenon that occurs in working memory and involves two sub-processes: *parsing* and *making form-meaning connections* from input during L2 comprehension. *Parsing* refers to "the moment-by-moment computation of sentence structure in real time" (VanPatten 2015, 92), that is, the syntactic projections learners make as they engage with input. *Making form-meaning connections* refers to the "moment-by-moment connection of surface formal features/formatives with meaning" (92): the connection of forms detected in the input to their corresponding meanings.

Drawing on insights from research in first language (L1) acquisition and SLA, the researcher (VanPatten 2020, 115) makes four major claims about these two sub-processes (parsing and making form-meaning connections) which can be summarized as follows:

1. When processing L2 input, learners tend to prioritize the extraction of meaning. As a result, they often overlook grammatical words and instead focus on deriving meaning from content words (e.g. Færch, Kasper 1986; Klein 1986; Sharwood-Smith 1986; Wong Fillmore 1976).
2. Because comprehension is initially quite effortful in terms of cognitive processing and working memory, there are limits to what the input processing mechanisms can attend to (see, e.g. Wickens 1984 for a review).
3. The capacity of working memory further constrains comprehension. As learners process input in real time, they are limited in how much information they can hold simultaneously (Just, Carpenter 1993, 332).
4. When processing L2 input, learners may draw on both universal processing strategies (e.g. Bever 1970; Ervin-Tripp 1994; LoCoco 1982) and those derived from their L1. Distinguishing between these two types of strategies can be challenging, as they often influence L2 processing in similar ways (VanPatten 2015).

Based on these claims, IPT outlines a set of principles that characterize the processing strategies learners typically adopt during the initial stages of SLA.

## 3.1 The Primacy of Meaning and Related Principles

The first claim presented above – that learners are primarily driven by a search for meaning when interacting with L2 input – led to the formulation the Primacy of Meaning Principle: "learners process input for meaning before they process it for form" (VanPatten 2004, 14), as demonstrated in studies by Lee (e.g. Lee 2003). Several sub-principles stem from the Primacy of Meaning Principle, beginning with the Primacy of Content Words.

### 3.1.1 The Primacy of Content Words

VanPatten (2020) explains that, since learners approach SLA knowing that languages have words and that there is a difference between lexical and non-lexical items, they tend to look first for lexical items to make form-meaning connections. This is known as the Primacy of Content Words Principle, which posits that "learners process content words in the input before anything else" (115). An important implication of this principle is that, because learners cannot allocate their attention to all the forms in the input, they will most likely attempt to extract meaning from lexical words before they pay attention to grammatical forms (if at all). To illustrate, consider the case of L2 French learners encountering the sentences in (1) or (2).

(1) *La dame sourit.*
'The lady is smiling.'

(2) *Elle a envie de chanter.*
'She wants to sing.'

According to the Primacy of Content Words Principle, learners will primarily focus on lexical forms that carry meaning, such as the noun *dame* (lady), and the verb *souri-* (smil-) in (1). In contrast, grammatical forms such as the determiner *la* and the third-person present marker *-t* may initially go unnoticed. Similarly, in (2), learners might skip over the preposition *de* (to) and instead focus on the noun *envie* (want) and the infinitive *chanter* (sing)to infer meaning. Evidence supporting learners' tendency to prioritize content words in L2 processing can be found in studies including Bernhardt (1992).

### 3.1.2 The Lexical Preference Principle

IPT makes another claim regarding grammatical markers: if the meaning of a grammatical marker is redundant with that of a lexical item, then the grammatical marker may not be processed (VanPatten 2020, 116). This implies that when presented with a sentence such as (3), learners will derive tense from the adverb *bientôt* (soon), which encodes futurity lexically, rather than from the verbal inflection *-ra*, which encodes the same meaning grammatically.

(3) *Elle sortira bientôt.*
'She will be leaving soon.'

Likewise, learners might not process the imperfective aspect of the French *imparfait* inflection if they can rely on an adverb such as *régulièrement* (regularly), as in (4).

(4) *Elle prenait le métro régulièrement.*
'She used to take the metro regularly.'

According to VanPatten (2020), this preference for lexical items has two major consequences. First, redundant grammatical forms will be processed only after the corresponding lexical forms have been processed and incorporated into the learners' developing linguistic system. In the case of (3) and (4), this means that the markers *-ra* and *-ait* will not be processed or incorporated until the lexical indicators of futurity and imperfective aspect, respectively, have been.

The second implication is that, as long as comprehension remains effortful, learners may completely overlook grammatical forms, focusing only on lexical items in their search for meaning.

These considerations led to the formulation of the Lexical Preference Principle as follows: "If grammatical forms express a meaning that can also be encoded lexically (i.e., that grammatical marker is redundant), then learners will not initially process those grammatical forms until they have lexical forms to which they can match them" (VanPatten 2020, 116). Empirical evidence for this strategy has been provided in Musumeci (1989) and Rossomondo (2007), among others.

This presentation of IPT will next address two additional implications of the Preference for Meaning Principle, both grounded in the idea that, from a learner's perspective, not all grammatical markers encode meaning.

### 3.1.3 The Preference for Nonredundancy Principle

VanPatten (2020) notes that not all grammatical markers are redundant. To illustrate this, consider the sentences in (5) and (6) in contrast with those in (3) and (4):

(5) *Elle sortira son chien.*
'She will walk the dog.'

(6) *Elle prenait le métro à République.*
'She used to take the metro at République.'

In (5), the verbal inflection *-ra* is the sole indicator of futurity. In (6), *-ait* is the only aspectual marker. The inflections *-ra* and *-ait* are thus nonredundant and carry high communicative value (i.e. they contribute to the referential meaning of the sentence).

IPT posits that, since learners always look for cues to meaning, when meaning is not encoded lexically, then (and only then) will they attend to grammatical markers (117). This implies that nonredundant forms are processed earlier than redundant ones. This principle is known as the Preference for Nonredundancy Principle: "learners are more likely to process nonredundant meaningful grammatical markers before they process redundant meaningful markers" (116).

### 3.1.4 The Meaning Before Nonmeaning Principle

While some grammatical forms may be redundant, others lack any communicative value altogether. Consider, for instance, sentences (7-9).

(7) *Il a une voiture verte.*
'He has a green car.'

(8) *Elle trouve que c'est dommage.*
'She thinks that it's a shame.'

(9) *Il n'a pas de chien.*
'He has no dog.'

The feminine marker *-e* in *un**e*** (a), *voitur**e*** (car), and *vert**e*** (green) in (7) does not encode any real-world semantic information. It simply reflects a grammatical convention that assigns feminine gender to *voiture* (car), thereby requiring agreement across related elements. In other words, there is no real-world form-meaning connection to be drawn from that *-e*, and failure to process it does not hinder the

interpretation of the sentence. (8) provides another example of a form lacking inherent communicative value: the subordinating conjunction *que*, whose processing is not essential for accessing the utterance's meaning. Similarly, the negative article *de* in (9) lacks inherent meaning; it merely reiterates information already present in the adverbial locution *ne…pas* (not). As such, it is redundant and carries low communicative value.

IPT posits that such grammatical features, which do not encode meaning, are processed after those for which "true form-meaning connections can be made" (VanPatten 2020, 117). This observation is formalized as the Meaning Before Nonmeaning Principle: "learners are more likely to process meaningful grammatical markers before non-meaningful grammatical markers" (117). Early empirical support for the Preference for Nonredundancy and the Meaning before Nonmeaning principles was found in studies such as Bransdorfer (1991).

Whereas all the principles discussed so far focus on how L2 learners make form-meaning connections, recall that IPT also accounts for how learners parse sentences in real time when their L2 grammatical system is still developing. The following sections describe the unconscious strategies that learners use in sentence parsing, captured under the First Noun Principle (FNP) and related principles.

## 3.2 The First Noun Principle (FNP) and Related Principles

Building on extensive research in both L1 and L2 acquisition showing that learners rely on sentence structure to interpret grammatical roles (e.g. Bever 1970; Ervin-Tripp 1994; LoCoco 1982), and that learners of a wide variety of L2s tend to assign the subject role to the first noun they encounter, irrespective of other cues such as object markers (e.g. Allen 2000), VanPatten formulated the FNP: "learners tend to process the first noun or pronoun they encounter in a sentence as the subject" (2020, 120). According to this principle, when presented with a sentence as (10),

(10) *Sophie est conduite à l'école par Marie*.
'Sophie is driven to school by Marie.'

a learner of L2 French is likely to interpret the proper noun *Sophie* as the subject, as if the sentence meant *Sophie a conduit Marie à l'école* (Sophie drove Marie to school). The FNP also explains, among others, difficulties in correctly interpreting subject and object roles in causative sentences (11) or in cleft sentences (12).

(11) *Inès fait faire ses devoirs à Enzo.*
'Inès makes Enzo do his homework.'

(12) *C'est Jasmine que Thomas soigne.*
'It is Jasmine that Thomas is treating.'

Because it remains unclear whether learners' parsing strategies are universal or due to a transfer of L1 processing strategies, IPT proposes an alternative captured by the L1 Transfer Principle.

### 3.2.1 The L1 Transfer Principle

This principle accounts for cases in which learners have difficulty interpreting meaning due to mismatches between the processing strategies employed in their L1 and those required by the L2. In this view, one of the reasons why learners of French might misinterpret sentences (10), (11), and (12) could be that their L1 parser is not equipped to handle passive, causative, or cleft constructions.

Another factor that may influence the way L2 learners parse sentences is the degree of likelihood that an event would happen in real life.

### 3.2.2 The Event Probability Principle

Consider a learner of French presented with sentences (13-15) instead of (10-12):

(13) *Sophie est conduite à l'école par sa mère.*
'Sophie is driven to school by her **mother**.'

(14) *Inès fait faire ses devoirs au petit garçon.*
'Inès makes the little boy do his **homework**.'

(15) *C'est Jasmine que le docteur soigne.*
'It is Jasmine that the **doctor** is treating.'

While the FNP predicts that learners tend to assign the agent role to the first noun in a sentence, real-world knowledge would suggest that the person referred to by the second noun in these sentences is more likely to have performed the action of driving/doing their homework/treating. This tendency to override the FNP with logical expectations is captured in the *Event Probability Principle*: "Learners may rely on event probabilities, where possible, instead of the FNP to interpret sentences" (VanPatten 2020, 121).

In a similar vein, VanPatten (2020) notes that learners bring to sentence processing an understanding that verbs typically involve actions and that nouns may refer to animate or inanimate entities. These expectations are addressed in the Lexical Semantics Principle.

### 3.2.3 The Lexical Semantics Principle

Learner's understanding of verbs and nouns makes it unlikely that a sentence such as (16) would be misinterpreted:

(16) *Le sac est ramassé par Rita.*
'The bag is grabbed by Rita.'

This phenomenon is formalized under the *Lexical Semantics Principle*, which posits that "Learners may rely on lexical semantics, where possible, instead of the FNP (or an L1 parsing procedure), to interpret sentences" (VanPatten 2020, 121). Empirical support for this principle has been found in studies such as Jackson (2007). Another factor that may influence how learners parse sentences is context.

### 3.2.4 The Contextual Constraints Principle

Research on L2 input processing has shown that learners use contextual elements to parse sentences, and that the presence of context, while not obliterating the use of the first-noun strategy, "attenuates it" (Houston 1997, 66). For instance, learners of L2 French are less likely to misinterpret sentence (10) *Sophie est conduite à l'école par Marie*, if it is preceded by contextualizing sentences such as *Sophie est en CP. Son père, Patrick, et sa mère, Marie travaillent tous les deux.* (Sophie is in First grade. Her father, Patrick, and her mother, Marie, both work.) This phenomenon is formalized in IPT as *the Contextual Constraints Principle*: "learners may rely less on the FNP (or L1 transfer) if preceding context constrains the possible interpretation of a clause or sentence" (VanPatten 2020, 121).

The principles reviewed thus far address how learners establish form-meaning connections and how they parse sentences in real time. IPT also accounts for another aspect of input processing: the position within the sentence at which certain elements are more likely to be processed.

## 3.3 The Sentence Location Principle

Drawing on research showing that elements in initial sentence position are easier to process, followed by those in final position, with medial elements being the most difficult to process (e.g. Barcroft, VanPatten 1997), VanPatten formulated the Sentence Location Principle. This principle predicts that "learners tend to process items in sentence initial position before those in final position and those in medial position" (VanPatten 2020, 122). From this perspective, learners of French encountering the sentence in (17) are likely to process *demain* (tomorrow) first, then *cinéma* (movies), skipping over medial elements.

(17) *Demain, il se peut que nous allions au cinema.*
'It is possible that we will go to the movies tomorrow.'

The Sentence Location Principle also contributes explain learners' difficulties in processing relative pronouns, clitic object pronouns, and conjunctions, among other grammatical forms.

## 3.4 Concluding Remarks on IPT

The principles of IPT outlined in the previous sections of this article constitute a unique attempt to explain how learners process or fail to process grammatical features in L2 input. As it stands, VanPatten's IPT represents the most complete account of how learners come to process L2 input. In essence, the theory predicts that learners filter incoming information to extract data relevant for building mental representations of language. It also posits that, driven by a search for meaning and influenced by a strong tendency to assign the agent role to the first noun encountered, learners sometimes fail to attend to grammatical forms; to map meaning and function to these forms, and to establish syntactic relationship as they perform the effortful and cognitively taxing activity of interpreting input in real time. Successful processing of forms and sentence structure thus depends upon learners' ability to overcome their default, inefficient processing strategies, which are captured by the series of principles detailed in the previous sections and summarized in Table 1.

**Table 1** Principles of Input Processing Theory (based on VanPatten 2020)

| |
|---|
| **1 The Primacy of Meaning Principle:** Learners process input for meaning before they process it for form. |
| 1.1 The Primacy of the Content Words Principle: Learners process content words in the input before anything else. |
| 1.2 The Lexical Preference Principle: If grammatical forms express a meaning that can also be encoded lexically (i.e., that grammatical marker is redundant), then learners will not initially process those grammatical forms until they have lexical forms to which they can match them. |
| 1.3 The Preference for Nonredundancy Principle: Learners are more likely to process nonredundant meaningful grammatical markers before they process redundant meaningful markers. |
| 1.4 The Meaning Before Nonmeaning Principle: Learners are more likely to process meaningful grammatical markers before nonmeaningful grammatical markers. |
| **2 The First Noun Principle:** Learners tend to process the first noun or pronoun they encounter in a sentence as the subject. |
| 2.1 The L1 Transfer Principle: Learners begin acquisition with L1 parsing procedures. |
| 2.2 The Event Probabilities Principle: Learners may rely on event probabilities, where possible, instead of the FNP to interpret sentences. |
| 2.3 The Lexical Semantics Principle: Learners may rely on lexical semantics, where possible, instead of the FNP (or an L1 parsing procedure) to interpret sentences. |
| 2.4 The Contextual Constraint Principle: Learners may rely less on the FNP (or L1 transfer) if preceding context constrains the possible interpretation of a clause or sentence. |
| **3 The Sentence Location Principle:** Learners tend to process items in sentence initial position before those in final position and those in medial position. |

Recognizing that learners often rely on inefficient strategies when interpreting input in real time, researchers began exploring ways to help them overcome these default strategies and adopt more efficient ones. It was with this objective in mind that VanPatten developed Processing Instruction (PI).

## 4 Processing Instruction (PI)

PI is a form-focused pedagogical intervention that accounts for the fundamental role of input in SLA and the necessity that learners make appropriate form-meaning connections from input to develop their mental representation of language. Directly informed by the processing principles outlined in VanPatten's IPT, it guides learners away from their default, inefficient processing strategies and toward more effective ones, thereby increasing the chance that they will make proper form-meaning connections and parse sentences appropriately as they interpret L2 input. PI, as originally conceptualized, consists of

two major components: Explicit Information (EI) and activities called Structured Input (SI) activities.

## 4.1 Explicit Information (EI)

In PI, EI about a target form or structure must address the specific processing problem(s) associated with it. To do so, the EI first explains what the form is called, why it is used, and what kind of meaning it conveys. Then, crucially, it warns learners against a commonly used but inefficient processing strategy.

To illustrate, consider the development of EI for the French subjunctive of necessity, as in the following examples where the expression of necessity in the main clause triggers the use of the subjunctive in the subordinate clause:

(18) [*Il est nécessaire*] [*que nous agissions maintenant.*]
'[It is necessary] [that we act now.]'

(19) [*Nous exigeons*] [*qu'on prenne des mesures.*]
'[We demand] [that measures be taken.]'

In these examples, the lexical elements *nécessaire* and *exigeons* in the main clause are both content words encoding the meaning of 'necessity'. As a result, the subjunctive inflections on *agissions* and *prenne* are redundant and of low communicative value. According to the Preference for Meaning Principle and its subprinciples (see Table 1), learners are therefore likely to overlook the subjunctive inflection when attempting to comprehend sentences. Furthermore, because the subjunctive form often appears in the middle of the sentence, it is less likely to be processed, as predicted by the Sentence Location Principle.

EI on the French subjunctive of necessity should therefore highlight the meaning conveyed by the subjunctive inflection and warn learners against the Preference for Meaning Principle and subprinciples, as well as the Sentence Location Principle. This can be achieved by:

1. Presenting learners with examples of the present subjunctive in context;
2. Explaining what the present subjunctive looks like, how it is used, and the meaning it conveys;
3. Warning learners against the misleading strategy of skipping over the subjunctive inflection because of its redundancy and mid-sentence position.

One way to achieve this is to present EI as illustrated in Figure 2.

**Expressing Necessity With the Present Subjunctive**

To raise awareness about the need to take action, activists use statements such as:

1. *Il est nécessaire que nous agissions maintenant.*
   'It is necessary that we act now.'
2. *Nous exigeons qu'on prenne des mesures.*
   'We demand that measures be taken.'

In these sentences, *agissions* and *prenne* are in the present subjunctive form.

**What the present subjunctive looks like:**

The French present subjunctive is formed by taking the **stem** of the **third person plural** (*ils/elles*) form of the **present indicative**, removing the *-ent* ending, and adding the following **subjunctive endings**: -e, -es, -e, -ions, -iez, -ent

- Example with *agir*:
  Ils agissent → agiss- →

| | |
|---|---|
| (que) j'agisse | (que) nous agissions |
| (que) tu agisses | (que) vous agissiez |
| (qu') il/elle/on agisse | (qu') ils/ellse agissent |

A few common irregular verbs include:

| | |
|---|---|
| **Être**: (que) je sois | (que) nous soyons |
| **Avoir**: (que) j'aie | (que) nous ayons |
| **Aller**: (que) j'aille | (que) nous allions |
| **Faire**: (que) je fasse | (que) nous fassions |

**When to use the subjunctive:**

- The subjunctive is used in sentences that consist of **a main clause and a subordinate clause** introduced by *que/qu'*, where each clause has a different grammatical subject.
- When the main clause (e.g. *Il est nécessaire*) expresses that the action depicted by the verb in the subordinate clause (*agir*) is **necessary**, then that action must be expressed in the **subjunctive**, as in *que nous agissions maintenant*. The subjunctive thus serves to reiterate the idea of necessity in the subordinate clause.

**Be careful!**

Because **the subjunctive verb form reflects an idea already introduced at the beginning of the sentence**, students tend to focus only on expressions like *Il est nécessaire*/ *Nous exigeons* to infer meaning when reading or listening. As a result, they often overlook the subjunctive form in the second part of the sentence. **Don't overlook the subjunctive form in the second part of the sentence!**

**Figure 2** Sample EI on the French subjunctive of necessity

## 4.2 Structured Input (SI) Activities

The second component of PI is structured SI activities. These activities aim at altering the way learners process L2 input in real time. In SI activities, learners are exposed to input that has been carefully manipulated – or *structured* – so that learners must rely on the target form to extract the meaning it encodes.

In the case of the French subjunctive of necessity, then, the input should be structured in a way that (1) prevents learners from relying

on the Preference for Meaning and related strategies as well as the Sentence Location strategy, and (2) prompts them to process the subjunctive inflection to understand that a sense of necessity is being conveyed. This can be achieved by removing the main clause that expresses necessity lexically, thereby isolating the subordinate clause, and positioning it at the beginning of the input as in the following examples:

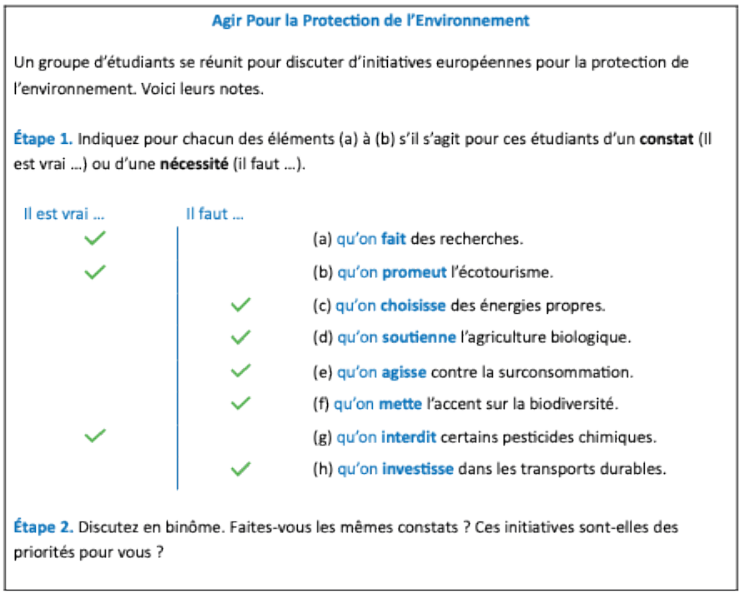
(20) *que nous agissions maintenant*
'that we act now'

(21) *qu'on prenne des mesures*
'that measures be taken'

A sequence of SI activities includes SI in two types of activities: referential activities and affective activities.

### 4.2.1 Referential Activities

Designed to promote the initial processing of the target grammatical feature, these activities can take various forms, such as sentence-picture matching or multiple-choice questions, and always have a right or wrong answer. This allows instructors to verify whether learners have made the proper form-meaning connections. Figure 3 shows an example of a referential SI activity focusing on the French subjunctive of necessity for students at the B1 level. In this activity, learners are asked to determine whether given statements are presented as facts or as necessities. It is assumed that the vocabulary used is either known by the participants or sufficiently transparent for comprehension.



**Agir Pour la Protection de l'Environnement**

Un groupe d'étudiants se réunit pour discuter d'initiatives européennes pour la protection de l'environnement. Voici leurs notes.

**Étape 1.** Indiquez pour chacun des éléments (a) à (b) s'il s'agit pour ces étudiants d'un **constat** (Il est vrai ...) ou d'une **nécessité** (il faut ...).

| Il est vrai ... | Il faut ... | |
|---|---|---|
| ✓ | | (a) qu'on **fait** des recherches. |
| ✓ | | (b) qu'on **promeut** l'écotourisme. |
| | ✓ | (c) qu'on **choisisse** des énergies propres. |
| | ✓ | (d) qu'on **soutienne** l'agriculture biologique. |
| | ✓ | (e) qu'on **agisse** contre la surconsommation. |
| | ✓ | (f) qu'on **mette** l'accent sur la biodiversité. |
| ✓ | | (g) qu'on **interdit** certains pesticides chimiques. |
| | ✓ | (h) qu'on **investisse** dans les transports durables. |

**Étape 2.** Discutez en binôme. Faites-vous les mêmes constats ? Ces initiatives sont-elles des priorités pour vous ?

**Figure 3** An example of a referential SI activity focused on the subjunctive of necessity

Notice that the input in this activity is structured so that the only cue enabling learners to make their decision is the subjunctive inflection. Learners cannot rely on the lexical items in the main clause or on their world knowledge to determine whether the actions are presented as facts or as necessities. Furthermore, the statements are short and limited to the third person singular, which helps reduce cognitive load and promote more efficient processing.

To maintain a focus on meaning and to make the activity communicative, learners are asked, in *Étape 2* (Step 2), to return to the statements and react to them by telling partners whether they consider the actions to be priorities. Only brief responses (e.g. *Pour moi, non* (Not to me)) would be required, ensuring that learners are not asked to produce sentences involving the indicative/subjunctive distinction before having sufficient practice processing the subjunctive of necessity in sentence comprehension.

Once learners have had the opportunity to practice processing the target form through several referential activities, affective activities can be introduced.

### 4.2.2 Affective Activities

Affective activities encourage learners to express a belief, opinion, or emotional response to a message. Therefore, these activities do not have right or wrong answers. The main goal of affective activities is to engage learners in processing input for meaning and offer them an opportunity to reinforce the form-meaning connections established during the referential activities. For this reason, affective activities always follow referential activities. Figure 4 shows an example of an affective SI activity where learners are asked to rate the necessity of different initiatives that could be taken for a greener campus.

**Pour un Campus Plus Vert**

**Étape 1.** Lisez ces propositions d'initiatives pour un campus plus écoresponsable. Pour chacune, indiquez si vous les considérez (1) inutiles, (2) plutôt importantes, ou (3) nécessaires.

(a) que nous **venions** en bus ou à vélo plutôt qu'en voiture.
(b) que nous **recueillions** l'eau de pluie pour la réutiliser.
(c) que nous **limitions** le nombre de photocopies autorisées.
(d) que nous **interdisions** la distribution de flyers sur le campus.
(e) que nous **chauffions** les bâtiments grâce à des panneaux solaires.
(f) que nous **triions** les déchets sur le campus pour ensuite les recycler.
(g) que nous **évitions** la vente de produits dans des emballages plastiques.
(h) que nous **conservions** les équipements informatiques le plus longtemps possible.

**Étape 2.** En petits groupes, comparez vos réponses. Quelle initiative est la plus populaire dans votre groupe ?

**Figure 4** An example of an affective SI activity focused on the subjunctive of necessity

Notice that the affective activity still provides learners with SI that addresses the relevant processing principles. Now, the focus has shifted to the first-person plural form, and the statements are slightly longer while remaining meaningful. Learners continue to respond to the input, but their answers may vary based on personal opinion. In *Étape 2* (Step 2), learners are encouraged to revisit the statements and share their opinions with partners in a communicative context.

It is important to note that once affective activities have enabled learners to strengthen the necessary form-meaning connections, the class may gradually move toward output practice. A more detailed discussion of output practice, however, falls beyond the scope of this article.

Finally, both referential and affective activities must follow the guidelines outlined and explained in Table 2.

**Table 2** Guidelines for Creating SI Activities (adapted from Lee, VanPatten 2003)

| |
|---|
| **a) Present one thing at a time.** This guideline means that paradigms should be broken down so that only **one form** (e.g. in Figure 3, the third person singular inflection of the present subjunctive) and **one function** (e.g. expressing necessity) are the focus in any given activity. This way, learners are more likely to direct their attention toward the targeted item. They can be made aware of the rest of the paradigm in subsequent activities. |
| **b) Keep meaning in focus at all times.** Activities should lead learners to process (1) the form (e.g. the present subjunctive inflection) or (2) the propositional content of the sentence and the form (e.g. the expression of a necessity and the verbal inflection that carries this meaning). In contrast, learners should not engage in mechanical activities, such as declensions of verbs or adjectives, as these do not require a focus on meaning. |
| **c) Move from sentences to connected discourse.** This guideline emphasizes the importance of starting with short sentences. The cognitive demands of processing meaning in narrative or descriptive discourse from the outset may be too overwhelming for learners. For instance, the statements in Figure 3 are shorter than those in Figure 4, which would typically have followed after completing several more referential activities. |
| **d) Use both oral and written input.** Activities should include both oral and written input, either across the activities or within each one. This approach not only adds variation to the activities but also addresses learners' individual differences. While all learners can benefit from oral input, visually oriented learners will particularly benefit from written materials to enhance their learning. |
| **e) Learners must do something with the input.** Learners should actively engage with the input rather than passively listening to the instructor or simply reading. As illustrated in the sample activities in this article, they must be encouraged to process forms and given opportunities to demonstrate that they are paying attention to what they hear or see. |
| **f) Keep the learner's processing strategies in mind.**This guideline suggests that each activity and each input sentence must be designed to steer learners away from their natural, often inefficient processing strategies and direct them toward more efficient ones. Any cues that would allow learners to access meaning without paying attention to the target form must be removed. For example, in the sample activities presented, the subjunctive is separated from expressions such as *Il est nécessaire* (It is necessary). |

In sum, what distinguishes PI from other types of form-focused instruction is that it directly addresses what learners need to do to process grammatical L2 input: detecting grammatical forms in communicative language and linking them to meaning so that a mental representation of this form can eventually be created. The key component of PI is input, but not any input. This input is carefully manipulated to steer learners away from inefficient processing strategies and toward more effective ones. By structuring input in this way, PI increases the likelihood that learners will attend to and properly process target forms.

To date, PI remains the only pedagogical intervention grounded in a theory of input processing, that is, it is based on what learners actually do when attempting to process L2 input and provides them with practice using more efficient strategies. As such, PI has attracted considerable research attention. The following section offers a brief overview of studies that have investigated its effectiveness.

## 4.3 An Overview of PI Research

VanPatten and Cadierno (1993) conducted the first study to investigate the effects of PI by comparing it to Traditional Instruction (TI), which focused on rule learning and production practice through drills. In their study, learners of L2 Spanish received either PI or TI focusing on direct object pronouns and word order. The results revealed that only the PI group showed significant improvements on an aural interpretation task, and both groups made significant improvements on a written production task, even though the PI group never practiced producing the target form. This finding, which suggests that PI was more beneficial than TI, has been replicated in various studies, including VanPatten and Wong (2004) on the French causative structure with *faire*.

Since then, research has provided evidence of the effectiveness of PI and its superiority over other types of grammar instruction for promoting accurate and efficient input processing of various target forms across languages such as Arabic, Chinese, English, German, Greek, Italian, Japanese, Russian, Turkish, and Japanese. These findings hold regardless of individual factors such as age, gender, motivation, L2 aptitude, prior knowledge, and working memory capacity (see, e.g. Lee, Benati 2023 for a review).

Extensive research has also allowed to identify SI as the driving force in PI. After a seminal study by VanPatten and Oikkenon's (1996) provided evidence that EI is not a necessary component in PI, Wong (2004) compared the performance of learners receiving PI with or without EI on the use of the negative *de* replace indefinite articles in French. The results revealed that EI was not necessary for qualitative changes in processing to occur, establishing SI as the essential component of PI. These findings have been reproduced in numerous partial replication studies. Over the years, more elaborate research designs have revealed that EI can, under certain circumstances, accelerate the onset of accurate processing of specific target forms in particular languages during SI activities (e.g. VanPatten et al. 2013).

Another line of inquiry in PI research has investigated potential transfer-of-training effects, that is, whether PI on one structure can improve learners' processing of structures they have not yet been taught. For instance, Benati et al. (2008) found that PI on the

French imperfect morphology – which is affected by the Lexical Preference principle – not only yielded significant improvements in the interpretation and production of imperfect inflections but also enhanced processing of two untrained structures: (1) French subjunctive verbal morphology, also affected by the Lexical Preference Principle, and (2) the French causative structure with *faire*, which is governed by the FNP. Benati et al. (2008) concluded that the benefits of PI extend to transfer-of-training effects. Comparable findings have been reported in several studies (see, e.g. Wong et al. 2021 for a review on this topic, along with a study presenting differing outcomes).

More recently, researchers have emphasized the importance of online methods for capturing real-time processing and comprehension strategies to better assess the effects of PI (e.g. Benati 2020). Wong and Ito (2018) were the first to innovate in this area by using eye-tracking to examine whether instruction in the form of PI and TI – with and without EI – would lead to differences in how learners processed the French causative structure with *faire*. Data collected during a sentence-picture matching task administered at pre- and posttest revealed that only PI was associated with a change in eye-movement pattern, and EI brought about a benefit in TI, but not in PI. Further evidence that SI activities do alter L2 learners' strategies in real-time has also been provided through self-paced reading tasks, where text is revealed one word at a time (e.g. Chiuchiù, Benati 2020). Though still in its early stages, online research is beginning to offer a clearer picture of how SI helps learners process L2 input more accurately and efficiently.

## 5 Conclusions

By revisiting IPT and its pedagogical implementation, PI, this paper sought to demonstrate how grounding grammar instruction in SLA theory and research can enhance the teaching of grammatical forms in L2 French. Therefore, the discussion moved from a reminder of the crucial role of input in SLA to a detailed and illustrated description of IPT, followed by a walkthrough of how PI can be designed.

As suggested by the brief review of PI research presented in the final section, thirty years of empirical work have built a robust body of evidence supporting PI's effectiveness, with more fine-grained insights now emerging with online methods. In light of this growing evidence and considering the important role of grammar in many L2 French textbooks, it is surprising to find PI so rarely represented in teaching materials. To my knowledge, PI is implemented in only one textbook, *Liaisons: An Introduction to French* (Wong et al. 2019), primarily used in North America.

It is my hope that this article will encourage L2 French curriculum developers and language teachers to draw on IPT to better understand learners' difficulties with grammatical forms and, when appropriate, to experiment with the development of SI activities tailored to their specific instructional contexts.

## Bibliography

Allen, L. (2000). "Form-Meaning Connections and the French Causative: An Experiment in Processing Instruction". *Studies in Second Language Acquisition*, 22(1), 69-84. https://doi.org/10.1017/S0272263100001030

Barcroft, J.; Van Patten, B. (1997). "Acoustic Salience of Grammatical Forms: The Effect of Location, Stress, and Boundedness on Spanish L2 Input Processing". Perez-Leroux, A.; Glass, W. (eds), *Contemporary Perspectives on the Acquisition of Spanish. Volume 2: Production, Processing, and Comprehension*. Sommerville, MA: Cascadilla Press, 109-22.

Benati, A. (2020). "Online Methods and Tasks in Research Measuring the Effects of Processing Instruction". *Instructed Second Language Acquisition*, 4(2), 111-23. https://doi.org/10.1558/isla.40641

Benati, A.; Lee, J.; Laval, C. (2008). "From Processing Instruction on the Acquisition of French Imparfait to Secondary Transfer-of-training Effects on French Subjunctive and to Cumulative Transfer-of-training Effects with French Causative Constructions". Benati, A.; Lee, J. (eds), *Grammar Acquisition and Processing Instruction: Secondary and Cumulative Effects*. Bristol, UK: Multilingual Matters, 121-57.

Bever, T.G. (1970). "The Cognitive Basis for Linguistic Structures". Hayes, R. (ed.), *Cognition and Language Development*. New York: Wiley & Sons, 279-362.

Bernhardt, E. (1992). *Reading Development in a Second Language: Theoretical, Empirical and Classroom Perspectives*. Norwood, NJ: Praeger.

Bransdorfer, R. (1991). *Communicative Value and Linguistic Knowledge in Second Language Oral Input Processing* [Unpublished doctoral dissertation]. Urbana, IL: University of Illinois at Urbana Champaign.

Chiuchiù, G.; Benati, A. (2020). "The Effects of Structured Input and Textual Enhancement on the Acquisition of Italian Subjunctive: A Self-Paced Reading Study". *Instructed Second Language Acquisition*, 4(2), 235-57. https://doi.org/10.1558/isla.40659

Corder, S. (1967). "The Significance of Learners' Errors". *International Review of Applied Linguistics in Language Teaching*, 5, 161-70. https://doi.org/10.1515/iral.1967.5.1-4.161

Ervin-Tripp, S. (1964). "An Analysis of the Interaction of Language, Topic, and Listener". American Anthropologist, 66(6), 86-102. https://doi.org/10.1525/aa.1964.66.suppl_3.02a00050

Faerch, C; Kasper, G. (1986). "Cognitive Dimensions of Language Transfer". Kellerman, E.; Sharwood-Smith, M. (eds), *Crosslinguistic Influence in Second Language Acquisition*. New York: Pergamon Press, 49-65.

Houston, T. (1997). "Sentence Processing in Spanish a Background Knowledge". Glass, W.; Pérez-Leroux, A. (eds), *Contemporary Perspectives on the Acquisition of Spanish*, *vol. 2, Production, Processing and Comprehension*. Somerville, MA: Cascadilla Press, 123-34.

Jackson, C. (2007). "The Use and Non-Use of Semantic Information, Word Order, and Case Markings during Comprehension by L2 Learners of German". *The Modern Language Journal*, 91(3), 418-32. https://doi.org/10.1111/j.1540-4781.2007.00588.x

Just, M.; Carpenter, P. (1993). "The Intensity Dimension of Thought: Pupillometric Indices of Sentence Processing". *Canadian Journal of Experimental Psychology*, 47(2), 310-39. https://doi.org/10.1037/h0078820

Klein, W. (1986). *Second Language Acquisition*. Cambridge: Cambridge University Press.

Krashen, S.D. (1985). *The Input Hypothesis: Issues and Implications*. London; New York: Longman.

Lee, J. (2003). "Cognitive and Linguistic Perspectives on the Acquisition of Object Pronouns in Spanish". Lafford, B.; Salaberry, R. (eds), *Spanish Second Language Acquisition: State of the Science*. Washington, DC: Georgetown University Press, 98-129.

Lee, J.; Benati, A. (2023). "Processing Instruction and Structured Input: A Critical Overview". *Ampersand*, 11. https://doi.org/10.1016/j.amper.2023.100136

Lee, J.; VanPatten, B. (2003). *Making Communicative Language Teaching Happen*. Boston: McGraw-Hill.

Leow, R. (2015). *Explicit Learning in the L2 Classroom: A Student-Centered Approach*. Routledge. https://doi.org/10.4324/9781315887074

LoCoco, V. (1982). "The Role of Word Order as a Cue in L2 Comprehension". *11th Annual Linguistics Symposium = Conference Proceedings* (University of Wisconsin-Milwaukee, March 1982).

Long, M.H. (1991). "Focus on Form: A Design Feature in Language Teaching". De Bot, K.; Ginsberg, R.; Kramsch, C. (eds), *Foreign Language Research in Crossculturalperspective.* Amsterdam: John Benjamins, 39-52.

Musumeci, D. (1989). *The Ability of Second Language Learners to Assign Tense at the Sentence Level. A Cross Linguistic Study* [Unpublished doctoral dissertation]. Urbana, IL: University of Illinois, Urbana-Champaign.

Rossomondo, A.E. (2007). "The Role of Lexical Temporal Indicators and Text Interaction Format in the Incidental Acquisition of the Spanish Future Tense". *Studies in Second Language Acquisition*, 29(1), 39-66. https://doi.org/10.1017/S0272263107070027

Sharwood-Smith, M.S. (1986). "Comprehension Versus Acquisition: Two Ways of Processing Input". *Applied Linguistics*, 7(3), 239-56. https://doi.org/10.1093/applin/7.3.239

Swain, M. (1985). "Communicative Competence: Some Roles of Comprehensible Input and Comprehensible Output in its Development". Gass, S.; Madden, C. (eds), *Input in Second Language Acquisition*, 235-53. New York: Newbury House.

VanPatten, B. (1996). *Input Processing and Grammar Instruction in Second Language Acquisition*. Norwood, NJ: Ablex.

VanPatten, B. (2004). "Input Processing in SLA". VanPatten, B. (ed.), *Processing Instruction: Theory, Research and Commentary*. Mahwah, NJ: Erlbaum. https://doi.org/10.4324/9781410610195

VanPatten, B. (2015). "Foundations of Processing Instruction". *International Review of Applied Linguistics in Language Teaching*, 53(2), 91-109. https://doi.org/10.1515/iral-2015-0005

VanPatten, B. (2020). "Input Processing in Adult SLA". VanPatten, B.; Williams, J. (eds), *Theories in Second Language Acquisition: An Introduction*. 3rd ed. New York, NY: Routledge, 113-34. https://doi.org/10.4324/9780429503986-12

VanPatten, B.; Cadierno, T. (1993). "Explicit Instruction and Input Processing". *Studies in Second Language Acquisition*, 15(2), 225-43. https://doi.org/10.1017/S0272263100011979

VanPatten, B.; Collopy, E.; Price, J.; Borst, S.; Qualin, A. (2013). "Explicit Information, Grammatical Sensitivity, and the First-Noun Principle: A Crosslinguistic Study in Processing Instruction". *Modern Language Journal*, 97(2), 506-27. https://doi.org/10.1111/j.1540-4781.2013.12007.x

VanPatten, B; Oikkenon, S. (1996). "Explanation Versus Structured Input in Processing Instruction". *Studies in Second Language Acquisition*, 18(4), 495-510. https://doi.org/10.1017/S0272263100015394

VanPatten, B.; Wong, W. (2004). "Processing Instruction and the *Faire* Causatif in French: A Replication". VanPatten, B. (ed.), *Processing Instruction: Theory, Research and Commentary.* Mahwah, NJ: Lawrence Erlbaum, 97-118. https://doi.org/10.4324/9781410610195

Wickens, C. (1984). "Processing Resources in Attention". Parasuraman, R.; Davies, D. (eds), *Varieties of Attention*. Orlando: Academic, 63-102.

Wong, W.; Ito, K.; Glimois, L. (2021). "PI and the French Causative and Passive Constructions: Examining Transfer-of-Training Effects Using Eye Tracking". Leeser, M.; Keeting, G.; Wong, W. (eds), *Research on Second Language Processing and Processing Instruction: Studies in Honor of Bill* VanPatten. Amsterdam: John Benjamins, 295-324. https://doi.org/10.1075/sibil.62.09won

Wong, W.; Weber-Fève, S.; VanPatten, B.; Lair, A. (2019). *Liaisons: An Introduction to French*. 3rd ed. Boston: Heinle Cengage Learning.

Wong Fillmore, L. (1976). *The Second Time Around: Cognitive and Social Strategies in Second Language Acquisition* [Unpublished doctoral dissertation]. Stanford, CA: Stanford University.