The Effect of Input Flooding and Explicit Instruction on Learning Adverb Placement in L3 French

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Abstract

This paper investigates the effect of an oral input flood and form-focused instruction on the learning of adverb placement in French by learners whose first language is Emirati Arabic. Participants were 24 university students in the United Arab Emirates who were true beginners in French. The treatment group (n = 12) received an input flood and form-focused instruction concerning the position of adverbs of aspect (e.g., *parfois*, *jamais*), and quantity (e.g., *beaucoup*) but the control group (n = 12) did not. Results show that input flooding and instruction were beneficial: with positive adverbs the treatment group produced and accepted significantly more adverbs in the target position, and decreased their non-target placement from pretest to posttest. One third of the participants accepted and the produced target order 100% of the time on the posttest. With negative adverbs both groups improved significantly from pre- to posttest, and were more accurate than they were with positive adverbs. The paper concludes with pedagogical implications for teaching adverbs in input-poor linguistic environments.

Résumé

Cet article examine les effets d'une exposition accrue à l'input oral et de l'enseignement axé sur la forme sur l'apprentissage du placement des adverbes d'aspect (par ex., *parfois, jamais*) et de quantité (par ex., *beaucoup*) en français par des apprenantes dont la langue première est l'arabe émirien. Les participantes sont 24 étudiantes universitaires vivant aux Émirats arabes unis. Elles sont des vraies débutantes en français. Le groupe expérimental (n = 12) a reçu une exposition accrue à l'input oral et de l'enseignement axé sur la forme, contrairement au groupe témoin (n = 12), qui n'en a pas reçu. Les résultats révèlent que l'enseignement explicite et l'exposition accrue à l'input oral ont eu un effet positif : avec les adverbes positifs le groupe expérimental a produit et accepté plus d'adverbes dans la position cible et a diminué son placement non cible du prétest au posttest. Un tiers des participantes du groupe expérimental ont accepté et produit l'ordre cible dans 100 % de leurs réponses dans le posttest. En ce qui concerne les adverbes négatifs les deux groupes ont amélioré leur performance du prétest au posttest d'une façon statistiquement significative. Leurs réponses sont plus justes avec les adverbes négatifs qu'avec les adverbes positifs. L'article conclut en soulignant certaines implications pédagogiques concernant l'enseignement des adverbes dans des environnements d'apprentissage pauvres en input langagier.

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Introduction

Form-focused instruction (FFI) has a long history in the field of second language (L2) learning research, with both theoretical and practical applications. One early claim was that the goal of FFI is consciousness raising, whereby learners' attention is drawn to target linguistic forms in the input (Sharwood Smith, 1981, 1991). Once learners notice the target form they will attend to it and eventually acquire it (Schmidt, 1993).

Consciousness raising evolved into *input enhancement*. Learners' attention can be drawn to a linguistic form through *textual enhancement,* a typographical means to emphasise forms in written texts such as underlining, different fonts and different colours of print (Sharwood Smith, 1993; Simard, 2002), or through *input flooding*, a process whereby input is enhanced to contain an abundance of occurrences of the target form. Wong (2005) described input flooding as follows:

> In input flood, the input learners receive is saturated with the form that we hope learners will notice and possibly acquire. We don't usually highlight the form in any way to draw attention to it nor do we tell learners to pay attention to the form. (p. 37)

According to Wong (2005) an input flood can be either written or oral. In the oral mode the target linguistic form is used frequently in natural speech, or a text including the target is written down and then read out loud to students. The target form is not emphasised in any way, but it is assumed that the form is more salient to learners because of its frequency (Han, Park, & Combs, 2008) and will therefore be noticed, leading to eventual learning (Gass, 1997; Schmidt, 1993; Williams & Evans, 1998).

Overview of the Literature

In this paper Ellis's (2010) definition of FFI will be adopted. Ellis (2010) defined FFI as:

> any planned or incidental instructional activity that is intended to induce language learners to pay attention to linguistic forms. It serves, therefore, as a cover term for a variety of other terms…"focus-on-form," and "focus-on-forms" (Long, 1991), corrective feedback/error correction…(Lyster & Ranta, 1997). Thus, FFI includes both traditional approaches to teaching forms based on structural syllabi and more communicative approaches, where attention to form arises out of activities that are primarily meaning-focused. (pp. 1-2)[1]

Written Input Enhancement

Sharwood Smith (1981) introduced the theoretical construct of consciousness raising, but it was not until 10 years later that it was taken up in an empirical study, namely Doughty (1991). She examined the effect of explicit FFI and implicit FFI on the L2

learning of relative clauses in English. Participants were intermediate-level students at an intensive English institute for international students. There were three groups: One treatment group was provided with metalinguistic descriptions of various types of relative clauses and was exposed to unenhanced sentences demonstrating the rules; another treatment group was exposed to the same written input, with the relevant aspects of the structure enhanced by highlighting and capitalisation but no rule presentation; and a control group received an input flood of the same unenhanced sentences containing relative clauses. Treatment took place in a computer lab. Results showed no significant differences between the two treatment groups on the posttests, and significantly better performance by both groups than by the input-flood group. Doughty concluded that learners' attention needs to be drawn to target forms in order to acquire them, and that both textual enhancement and rule presentation were effective. The results of this study guided future research, which continued to investigate the effectiveness of textual enhancement, rule presentation and input flooding.

There were mixed results in research conducted after this landmark study. Some studies showed a beneficial effect for input enhancement (e.g., Lee, 2007; White, J., 1998) while others found no beneficial effect (e.g., Izumi, 2002; Leow, 2001; Leow, Egi, Nuevo, & Tsai, 2003; Williams & Evans, 1998; Wong, 2003). A number of factors were proposed to account for the absence of significant results, including lack of salience of the target form (Leow, 2001; Leow et al., 2003), the complexity of the target form (Williams & Evans, 1998), and the need for pushed output to promote deeper levels of processing required for input to become intake (Izumi, 2002).

Few studies compared the effect of input enhancement alone with input enhancement coupled with FFI, but those that did suggested that the input enhancement with FFI was more effective. Shook (1994) showed that textual enhancement together with explicit instruction led to more positive results than textual enhancement on its own, and Alanen (1995) found that learners who had been exposed to a rule, with or without textual enhancement, outperformed a textual enhancement group. These results conflict with Doughty (1991), however, who found both treatments equally effective.

Two summary articles and a meta-analysis have been conducted on the topic of input enhancement to try to account for some of the conflicting results. Ellis (1999) reviewed eight studies that examined the effect of input enhancement. Due to the small number of studies on the topic, his "tentative conclusion" (p. 7) was that both textual enhancement and input flooding promoted learning of the target form, although it was not clear that highlighting the form was necessary. In other words, it may be that the input flood is what promotes learning rather than the enhancement.

Han et al. (2008) conducted an extensive search of the literature and found 21 articles published between 1991 and 2004 dealing with textual enhancement. They noted that most of the studies compared textual enhancement with traditional grammar instruction, with an input flood or with output-based instruction. The authors concluded that "simple enhancement" (p. 609) did not benefit learners, but "compound enhancement" (p. 609), that is, prior knowledge of the form and instructions to pay attention to the form, was beneficial. They, like Ellis (1999) before them, observed that it was difficult to tease out the differential effects of input flooding and textual enhancement since in most studies there was no true control group: typically the comparison group was exposed to the same input, but unenhanced. Han et al. suggested that input flooding might be more effective than

textual enhancement, but more research was needed since so few studies had been conducted up until that time.

In their meta-analysis of research on what they called *visual input enhancement* (VIE), Lee and Huang (2008) synthesised 16 studies published between 1991 and 2007. They pointed out that very few studies had been conducted, and that two researchers accounted for 37.5% of them. In 50% of the studies the target language was Spanish, and English came second with 31%. Their statistical analysis showed small effects between VIE and input flood groups, and they noted that the effect sizes were much smaller than those found by Norris and Ortega (2000) for the effects of FFI more generally. Lee and Huang suggested that one factor contributing to the mixed results with VIE might be that learners do not attend to the target form if they are not told to do so. A similar observation had been made previously by Doughty and Williams (1998), who noted that "input flooding and input enhancement may sometimes be too implicit to be maximally effective" (p. 238) and suggested that in order to increase the perceptual salience of the target form enhanced input should be accompanied by explicit instruction to pay attention to the enhanced form. J. White (1998) also concluded that learners need to be told explicitly what to attend to when they are exposed to input-enhanced materials. Similarly, Wong (2005) maintained that it is not always possible to ascertain if learners will attend to grammatical features in an input flood if they are not instructed to do so.

To summarise the overview so far, there are conflicting results concerning the effects of input enhancement in L2 learning, and whether textual enhancement is more effective than an input flood. Ellis (1999), Han et al. (2008), and Lee and Huang (2008) all suggested that the research conducted up to the date of their review suffered from the lack of a true control group with no treatment, which made it difficult to ascertain the differential effects of flooding and textual enhancement. Moreover, it is not clear whether explicit instructions to attend to the target form or rule presentation along with instruction to attend to the target form would be more effective than a simple input flood.

More recently, there has been research in the area of input enhancement that addressed one of the shortcomings of previous research, namely the lack of a true control group. In a series of studies, Hernández (2008, 2011), and Hernández and Rodríguez-González (2012) explored the effects of input flooding and FFI on the learning of discourse markers in L2 Spanish. These studies all consisted of three groups: one was exposed to an input flood (the implicit group); another received a handout with an explanation, and a list of words and their translations as well as the same input flood (the explicit group); and another did not receive either an input flood or FFI but took part in comparable communicative activities (the control group). Participants were Anglophones learning L2 Spanish in their fourth or fifth semester of studies. The target forms were discourse markers (e.g., the Spanish equivalents of words such as *then* and *therefore*). The treatment consisted of two 50-minute sessions. Both experimental groups read three texts containing approximately 20 discourse markers each and then performed three information gap exercises that focused on discourse markers and preterit and imperfect verb forms. The explicit group received instruction and corrective feedback on discourse markers, and were told to attend to discourse markers while performing the tasks. The implicit group received FFI about the verb forms targeted in the activities, but not about the discourse markers. The control group did the same activities and was told to focus on verb forms in the activities. In all three studies the two treatment groups had significantly higher results on the posttests than the control group. However, in Hernández (2008) the group that received input flood

and explicit instruction significantly outperformed the input-flood group. In Hernández (2011) and Hernández and Rodríguez-González (2012), however, both treatment groups had significantly higher scores than the control group, but there were no significant differences between the two treatment groups. Hernández (2011), and Hernández and Rodríguez-González concluded that FFI combined with an input flood was not superior to an input flood alone, and that "exposure to an input-rich environment combined with meaningful, task-essential practice is sufficient" (Hernández, 2011, p. 177). The results from this series of studies in which there was a true control group not exposed to an input flood are clear: Input flooding significantly improved learners' mastery of the target forms and they outperformed control groups who did not receive a flood.

Another recent study that investigated the effect of input flooding is Zyzik and Marques Pascal (2012). They explored the effect of implicit and explicit FFI coupled with an input flood on the learning of Spanish *differential object marking* (DOM) by Anglophone university students. Simplifying somewhat, in its core use the Spanish preposition *a* [to] marks animate direct objects with certain verbs. There were three groups in the study: an input flood group, an enhanced input flood group, and an explicit grammar group. The input flood group was provided with 18 idiomatic expressions containing examples of DOM, whereas the enhanced input flood group received the same input but at several points during the treatment was told to pay attention to the preposition *a* marking the direct object. The authors noted that these 18 idioms were used a number of times, so the two input flood groups received roughly 90 exemplars of DOM. These two groups also received corrective feedback in the form of recasts when they used an idiom incorrectly or when the idiom was "malformed" (Zyzik & Marques Pascal, 2012, p. 398). The enhanced group also received recasts if they omitted the preposition *a.* The third group, the explicit grammar group, received rules and explanations on the use of DOM, read a narrative with 17 examples of DOM that they were asked to identify, and did output activities during which they received corrective feedback in the form of recasts. The third group did not receive an input flood. Results showed that all three groups performed significantly better on the posttest than on the pretest, and that the explicit grammar group outperformed the other two groups. There were very few significant differences between the flood group that received instruction to notice (the enhanced input flood group) and the one that did not (the input flood group), and Zyzik and Marques Pascal concluded that the enhanced input flood group gained no advantage by being instructed to attend to the form.

In summary, the results of the studies described above are contradictory with regard to the efficacy of FFI coupled with an input flood, with two studies—Hernández (2008) and Zyzik and Marques Pascal (2012)—showing a positive effect, and two others—Hernández (2011) and Hernández and Rodríguez-González (2012)—showing no significant differences in performance between the groups who received FFI along with an input flood and those that did not.

Oral Input Enhancement

Almost all studies incorporating input enhancement have used written input. The exceptions are Spada and Lightbown (1993) and Trahey and White (1993). Spada and Lightbown found that an oral input flood of interrogative sentences alone was not enough to enable students to move to later developmental stages in question formation, and hypothesised that flooding coupled with FFI might be more effective. Similarly, Trahey and

White investigated the effects of input flooding on the learning of adverb placement in L2 English. Results showed this flooding was effective in assisting students to learn target adverb placement, but not in showing them that the first language (L1) order was ungrammatical. Trahey and White concluded that an input flood coupled with negative evidence, that is explicit instruction and error correction, might be necessary to supplant the L1 order.

While there have been a fairly large number of studies in which input has been visually enhanced to draw learners' attention to the target linguistic form, to the best of our knowledge there has been only one study on the efficacy of aurally enhanced input since the studies by Spada and Lightbown (1993) and Trahey and White (1993) described above. Cho and Reinders (2013) studied the effect of two types of aural enhancement, slower rate of speech and pauses, on learning the passive voice in English. Participants were students in an English for academic purposes course for business majors, who listened on their own time to a 90-minute simplified version of *Frankenstein* containing 65 exemplars of the passive voice. There were three groups, one that listened to a recording in which all occurrences of the target were slowed down, another that listened to a recording in which there was a pause before and after each occurrence of the target, and a comparison group that listened to an unenhanced version of the story. Results on a timed grammaticality judgement task showed that all three groups improved from pretest to posttest, but that there were no significant differences between the groups. A questionnaire after treatment showed that most participants in the pause group noticed the pauses but did not realise their purpose was to draw attention to the passive forms. Participants in the reduced speed group did not notice any changes in speaking rate. It is clear that pauses were salient, but participants did not know what they were supposed to attend to, similar to the observation in the textual enhancement literature that subjects need to be told to attend to enhanced written input.

It may be that the dearth of studies on aural input flooding has had an influence on pedagogy. Simard and Jean (2011) conducted an analysis of classroom interventions in French second language (FSL) and English second language (ESL) classrooms. In the subcategory "form-focused instruction types and subtypes" there were 699 interactions-on-form techniques used: 44% involved corrective feedback, 33% involved explanation, and 15% involved targeted questioning. There was only one interaction on form involving an input flood.

To summarise this section, much of the research on both written and oral input flooding suggests that an input flood coupled with FFI—including rule presentation, correction and/or directions to attend to the target grammatical feature—might be more effective than input flooding on its own, although there are some results which contradict this observation. As Han et al. (2008) concluded, "the jury is still out on the effects of TE" (p. 610) and more studies are required.

Input Flooding and Adverb Placement

This article reports on a classroom-based study conducted to test the combined effect of an input flood and FFI on learning adverb placement in third language (L3) French. There are several reasons for choosing this linguistic variable. First of all, there is previous research on the effects of input flooding on learning adverb placement. In a series of studies, L. White (1990, 1991), Trahey and White (1993), and Trahey (1996) studied the

effects of input and instruction on the learning of adverb placement in L2 English by Francophone elementary school students.

L. White (1990) compared a group that received seven hours of FFI concerning adverb placement in English with one that received a similar treatment but involving question formation. The FFI included rule presentation, and teacher and peer correction while students performed different form-focused activities with adverbs. The control group was considered to be an input group, receiving positive evidence only.[2] Results showed that positive evidence alone did not have an effect on learners' production and judgements of target or non-target adverb placement, but that FFI did. However, a delayed posttest administered one year after treatment showed that the improvement in the treatment group was not lasting; there were no significant differences between its performance on the pretest and delayed posttest. Based on recordings of the teachers' classroom language and observations in the classrooms, L. White (1990) noted that there were very few adverbs in the input so that the non-instructed group might not have had sufficient exemplars of adverb placement to acquire target word order. She concluded that it might have been exposure to a large number of exemplars rather than instruction that accounted for the treatment group's superior performance, and that an input flood of adverbs might be more effective in enabling learners to acquire adverb placement.

Following from this study, Trahey and White (1993) investigated the effects of oral and written input flooding on the learning of adverb placement in L2 English. Participants were elementary school students in Grades 5 and 6, similar to those in L. White (1990). Over a 2-week period the input flood group was exposed to numerous occurrences of adverbs of frequency and manner, both oral and written, and performed a number of form-focused activities. Results revealed this flooding was effective in assisting students to learn target adverb placement, but not in showing them that the L1 order was ungrammatical. Trahey and White concluded that FFI along with an input flood might be necessary to supplant the L1 order. Trahey (1996) did a follow-up study on the same participants. She found that after one year they had maintained their posttest gains with target adverb order, but continued to accept and produce the ungrammatical L1 order. She concluded that input is not sufficient for students to "unlearn" non-target order because it does not indicate what is ungrammatical, and that input flooding combined with FFI, in particular negative evidence and correction, might lead to greater gains.

Another reason for choosing to focus on adverbs in this study is that they are not part of the syllabus for the course in question. L. White's (1990) analysis of the input in intensive ESL classrooms, based on observation and audio recordings, showed that adverbs were relatively rare. She noted that "[t]here is in fact very little occasion for spontaneous use of adverbs in normal interactions in a language classroom" (White, L., 1990, p. 158). The French as a foreign language (FFL) course in the current study consisted of only 2.5 hours per week, so it is unlikely that learners would be exposed to adverbs in the classroom, and an input flood would give positive evidence that would not be otherwise available. Moreover, since adverbs are not part of the syllabus, any measured effect would likely be due to the treatment.

The Current Study

Adverb Positions in Arabic and French

To the best of our knowledge there has been no formal syntactic analysis of Emirati Arabic, the L1 of the participants in the current study. Based on our field work, the preferred position for aspectual adverbs[3] (e.g*., ʔadatan*, the equivalent of *usually*) in Emirati Arabic is subject-adverb-verb-object (SAVO), but subject-verb-adverb-object (SVAO), subject-verb-object-adverb (SVOA), and adverb-subject-verb-object (ASVO) are also fully grammatical. For quantity adverbs (e.g., *wayed*, the equivalent of *a lot*) the preferred position is SVOA, but the other orders are also grammatical. In French, the basic position for all adverbs is SVAO, and SAVO is ungrammatical. Furthermore, ASVO and SVOA are marked, confined to certain adverbs and with special intonation. These positions are true of both positive (e.g., *toujours*) and negative (e.g., *jamais*) aspectual adverbs (see Table 1). In Table 1 and throughout the remainder of this article, √ means the word order is grammatical, * means the word order is ungrammatical, and *?* means the order is marked, as defined above. *Neg* refers to the negative marker *ma* in Arabic and *ne* in French, which occur with the Arabic and French equivalents of the aspectual adverbs *ever* and *anymore*. *Neg* is in parentheses to show it is optional; it occurs with the Arabic and French equivalents of the negative aspectual adverbs *ever* and *anymore*, but not with the positive aspectual adverbs, the Arabic and French equivalents of *always, sometimes, rarely* and *usually*.

Table 1
Adverb Placement in Emirati Arabic and French

Aspectual Adverbs (e.g., *often*)		Quantity Adverbs (e.g., *a lot*)	
Emirati Arabic	French	Emirati Arabic	French
√AS(Neg)VO	?AS(Neg)VO	√ASVO	?ASVO
√S**A(Neg)**VO	*SA(Neg)VO	√SAVO	*SAVO
√S(Neg)VAO	√S(Neg)VAO	√SVAO	√SVAO
√S(Neg)VOA	?S(Neg)VOA	√**SVOA**	?SVOA

Note. The format of Table 1 is inspired by Trahey (1996). **Bold** indicates preferred order in Emirati Arabic.

This study was guided by the following research questions:

1. Is an oral input flood coupled with FFI effective in helping learners acquire adverb placement in the L3?
2. Will learners be able to unlearn L1/L2 order?

The results of this study have the potential to make a contribution to the field of FFI in a number of ways. First of all, following Norris and Ortega (2000), this study incorporated a true control group that had no exposure to the target linguistic variable. This means that the

results can be unequivocally attributed to treatment. Second, the target language is French, which is one of the less-studied languages in the field. As mentioned above, Lee and Huang (2008) showed that 81% of the 16 studies on textual enhancement they analysed were L2 learners of Spanish and English. Third, this study responds to a question still to be answered concerning the L2 acquisition of adverbs, namely whether an input flood and FFI will not only facilitate learners' acquisition of the target form but also help them learn that one order is ungrammatical. Finally, because the participants are true beginners in a foreign-language context, we can be certain they have no prior knowledge of adverbs.

Method

This study forms part of a larger project, and three versions of the tasks described below, in Arabic, English, and French, were administered to both the treatment group and the comparison group, with at least 2 weeks between administrations. In what follows, only the results of the French tasks will be presented.

Participants

Participants were two intact classes of students at a university in the United Arab Emirates. Students whose L1 was not Arabic as well as those who did not complete both pre- and posttests were excluded from the study. All were true beginners, having had no formal exposure to the French language prior to registering in the course. There were 12 students in each group. The treatment group ranged in age from 17 to 23 years, and the control group ranged in age from 19 to 23 years. Most students had been placed in Level 3 (intermediate) English upon arrival at university (81.8% of the control group and 83.3% of the treatment group).

The treatment group and the control group had the same instructor, who used the same course manual, *Café Crème 1* (Kaneman-Pougatch, Trevessi, Beacco di Giura, & Jennepin, 1997) and followed the same syllabus. There were two 75-minute classes per week. Both groups received instruction in basic negation with *ne…pas* in the first unit of the textbook, starting the first week of the course. No other negative adverbs are presented in the textbook, but negation with *ne...pas* is practiced in subsequent units. The input flood and FFI treatment began 6 weeks into the course.

Treatment

The treatment group received an input flood of six positive and two negative adverbs over an 8-week period. For the negative aspectual adverbs *jamais* and *plus*, the instructor used basic negation *ne…pas* as a starting point. She introduced the form *ne…jamais*, drawing students' attention to the preverbal negator *ne* by writing it in red on the dry board, and to the postverbal position of *jamais,* emphasising that it had the same position as *pas*, for example, "*Il ne neige jamais à Al Ain*." For *ne…plus*, she drew a big cross on the board to indicate that the event or state being described was finished. Again she emphasised the preverbal negator *ne* and the postverbal position of *plus.* The control group did not receive any instruction on the negative aspectual adverbs *jamais* or *plus*.

There are no positive adverbs presented anywhere in the textbook, with the exception of *toujours* with the meaning *still*, which appears twice in the dialogues. The

instructor was thrilled when she was asked to participate in the study because she felt that adverbs should be taught at this level. Because the students were true beginners, with approximately 15 hours of exposure to French when the treatment began, the instructor confined herself to six adverbs. She presented the target adverbs *beaucoup*, *habituellement*, *parfois*, *rarement*, *toujours*, and *vraiment* through context, gesture and drawings. For example, she drew a large heart on the blackboard to explain "*J'aime beaucoup X*." She noted that students quickly made the connection between *habit* in English and *habituellement* in French, and *rarely* in English and *rarement* in French, although she used only French in the classroom and the textbook was written exclusively in French, unlike many FSL/FFL classrooms in the English-speaking world.

Following this brief introduction to the position of adverbs in French during which the instructor underscored their postverbal position, she presented the learners with an input flood, as well as a small amount of different types of FFI, including written input enhancement, recasts and reformulations. As she proceeded through the chapters in the textbook, every time that she introduced a new verb or expression she tried to incorporate the adverbs that she had previously presented as naturally as possible. For example, when talking about the weather she would say "*Il fait vraiment chaud aujourd'hui*." The input flood was spread out over the 8-week period and contained data showing the postverbal position of adverbs. The instructor did not want the students in the treatment group to feel they had to learn more vocabulary items or be disadvantaged in other ways compared to the control group, so her interventions were minimal. As she explained: "*Les mots venaient naturellement dans mes cours et s'installaient dans leur mémoire sans qu'elles s'en rendent compte*" (N. Schneider, personal communication, May 24, 2008). Part of the treatment consisted of the instructor asking students in the treatment group oral questions using adverbs. If students made a mistake in adverb placement when they responded she would correct them using a recast with the adverb in the correct position. If the student's sentence was too complex the instructor re-formulated the sentence more simply. For example, if she asked "*Aimez-vous beaucoup les films?*" and the student replied "*Oui, j'aime les films beaucoup*" with SVOA order, the teacher would provide a recast, "*J'aime beaucoup les films,*" with target SVAO order.

The control group went through the same units in the text and did the same exercises. The only difference was when the instructor presented and practiced new verbs she did not present them with the target adverbs, so in the examples above when talking about the weather she would say "*Il fait chaud aujourd'hui*" or "*J'aime les films*," omitting the adverbs to which the treatment group was exposed. She would ask the students in the control group the same types of questions as the flood group, but without the adverb. For example, she would ask students in the control group "*Aimez-vous les films?*" and they would reply "*Oui, j'aime les films*." Obviously there would be no negative feedback, since students would not use the adverbs because they had never been exposed to them.

In the class before the posttest, which was given four days after the last day of treatment and after a weekend, the instructor gave the treatment group a one-page handout that reviewed the adverbs they had been exposed to in class. At that time she repeated the connection between *ne…pas* and *ne…jamais*, underlining the fact that *ne* was the same with both expressions, and that *jamais* occurred postverbally, like *pas*.[4] She then went on to example (2) on the handout—*vraiment*—and again underscored that all three elements, *vraiment*, *jamais* and *pas*, occurred in the same postverbal position. The negators and

adverbs were in bold, as shown below in (1) and (2), and several example sentences were provided for each.

(1) *Ne…jamais : **Ne** + verbe + **jamais***

- *Je **ne** danse **jamais** le rock.*
- *Il **ne** neige **jamais** à Al Ain.*

(2) *Vraiment*

- *Il fait **vraiment** chaud aujourd'hui.*
- *Le film est **vraiment** bien.*

The control group did not receive the handout or the explanations before the posttest, and did other activities unrelated to adverbs at that time.

In sum, learners in the treatment group received an input flood coupled with a variety of FFI techniques, including explicit instruction and review concerning the position of adverbs, error correction, and what could be considered "pushed output" (Swain, 1985), that is, asking students to respond to questions which contained adverbs.[5]

Pretests and Posttests

There were two parts to the pre- and posttests: a sentence completion task and an acceptability judgement task. Because participants were true beginners, both tasks were carefully constructed to include only nouns and verbs they had already covered in class. The same adverbs included in the input flood were used in both tasks. The pretests were administered during the 6th week of classes, when learners had had approximately 15 hours of exposure to French. Posttests were administered 9 weeks after the pretests and 4 days after the treatment ended.

The same adverbs to which the treatment group were exposed during treatment were used in the pre- and posttests. The control group had had no exposure to any of the target adverbs. The sentence completion task consisted of eight stimuli. Participants were provided with nouns, transitive verbs and the adverbs, and were asked to compose sentences including all of these elements. The judgement task comprised 16 test sentences: six with grammatical SVAO order and six with ungrammatical *SAVO order, as well as two with grammatical subject-neg-verb-adverb-object order (SNegVAO), and two with ungrammatical subject-neg-adverb-verb-object order (SNegAVO). Participants were asked to evaluate the acceptability of each sentence on a scale of 0 *totally unacceptable* to 3 *totally acceptable*, and to correct those which they judged *totally unacceptable* or *unacceptable*. There were also six distractors, three grammatical and three ungrammatical, with or without correct subject-verb agreement or determiners.

Results

Responses were coded 1 *correct*, S(Neg)VAO, and 0 *not correct*—all other orders—and entered in an SPSS database. While other positions for adverbs in French can be acceptable, depending on the particular adverb and the context, it was decided that only SVAO would be considered grammatical. First, this was the only position the instructor

included in the input flood and during the instruction phase. Second, the tasks were administered to eight Canadian Francophones, and they almost never produced other possible positions: over 97% of their responses were SVAO, and in 100% of the responses the order was S(Neg)VAO.

Responses were also coded by structure, for example, subject-adverb-(neg)-verb-object (SA[Neg]VO), subject-(neg)-verb-object-adverb (S[Neg]VOA), and subject-(neg)-verb-adverb-object (S[Neg]VAO). Because preliminary analyses showed that the response patterns were different for positive and negative adverbs, and for grammatical and ungrammatical stimuli on the judgement task, these results will be presented separately.

Positive Adverbs

Table 2 gives the results on pretests and posttests by group and task.

Table 2
Independent Samples t Test with Adverbs by Group and Task

		N	*M*	*SD*	*SEM*	*t*	*df*	*p* (two tailed)
Pre SC	Cont	12	0.25	0.62	0.18	0.39	22.00	.698
	Treat	12	0.17	0.39	0.11			
Post SC	Cont	12	0.00	0.00	0.00	-4.53	11.00	<.001
	Treat	12	3.41	2.61	0.75			
Pre AJ	Cont	12	3.83	2.12	0.61	0.00	22.00	1.000
	Treat	12	3.83	1.64	0.47			
Post AJ	Cont	12	3.25	2.38	0.69	-2.03	22.00	.055
	Treat	12	4.92	1.56	0.45			
Pre *AJ	Cont	12	0.42	0.99	0.29	0.81	22.00	.427
	Treat	12	0.17	0.39	0.11			
Post *AJ	Cont	12	0.17	0.39	0.11	-2.96	11.39	.013
	Treat	12	2.67	2.90	0.84			
Total Pre	Cont	12	4.41	2.93	0.85	0.25	22.00	.805
	Treat	12	4.17	1.85	0.53			
Total Post	Cont	12	3.42	2.50	0.72	-3.75	14.14	.002
	Treat	12	11.00	6.55	1.89			

Note. SC = sentence completion; AJ = acceptability judgements of grammatical stimuli; *AJ = acceptability judgements of ungrammatical stimuli; Cont = control group; Treat = treatment group.

On the pretest, an independent samples *t* test showed that there were no significant differences between the groups on the sentence completion task ($t = 0.39$, $df = 22.00$, $p = .698$), or with grammatical sentences ($t = 0.00$, $df = 22.00$, $p = 1.000$) or ungrammatical sentences on the judgement task ($t = 0.81$, $df = 22.00$, $p = .427$). An effect size was calculated on the total pretest scores for the two groups: The effect was small (Cohen's $d = 0.105$).

Results for the posttests are also presented in Table 2. The mean scores on the sentence completion task were 0.00/6.00 for the control group and 3.41/6.00 (56.83%) for the treatment group. With grammatical stimuli on the judgement task mean scores were

3.25/6.00 (54.17%) for the control group and 4.92/6.00 (82%) for the treatment group. With ungrammatical stimuli on the judgement task the mean scores were 0.17/6.00 (2.83%) for the control group and 2.67/6.00 (44.50%) for the treatment group. This latter result is quite striking, since in order for a response to be considered *correct* participants had to judge *SA(Neg)VO sentences as ungrammatical and correct them to target S(Neg)VAO.

An independent samples *t* test showed that there were significant differences between the groups with two tasks: the sentence completion task (t = -4.53, df = 11.00, p < .001, α = .05) and ungrammatical sentences on the judgement task (t = -2.96, df = 11.39, p = .013, α = .05). Results for grammatical sentences on the judgement task were close to statistical significance (t = -2.03, df = 22.00, p = .055). Results for the total posttest were significant (t = -3.75, df = 14.14, p = .002). An effect size was calculated on the total posttest score: The effect was large (Cohen's d = -1.68).

Table 3 gives the results of a paired-samples *t* test, which measured the difference between each group's results on the pretest and posttest. It is clear that input and FFI had a positive effect: There are statistically significant differences between the pre- and posttests for the treatment group on the sentence completion task (t = -4.22 df = 11, p = .001, α = .05) and with ungrammatical sentences on the judgement task (t = -2.80 df = 11, p = .017, α = .05). The results for the total scores were significant (t = -2.98, df = 11, p = .012). The effect size on the total score is large (Cohen's d = -0.887). There were no significant differences between pre- and posttest scores for the control group on any task, and the effect size on the total score is small (Cohen's d = 0.381).

Table 3
Paired-Samples t Test With Adverbs by Task, Group and Test

		N	*M*	*SD*	*SEM*	*t*	*df*	*p* (two tailed)
Treatment								
SC	Pre	12	-3.25	2.67	0.77	-4.22	11	.001
	Post							
AJ	Pre	12	-1.08	2.71	0.78	-1.38	11	.194
	Post							
*AJ	Pre	12	-2.50	3.08	0.89	-2.80	11	.017
	Post							
Total	Pre	12	-6.83	7.92	2.23	-2.98	11	.012
	Post							
Control								
SC	Pre	12	0.25	0.62	0.18	1.39	11	.191
	Post							
AJ	Pre	12	0.58	1.97	0.11	1.02	11	.328
	Post							
*AJ	Pre	12	0.25	0.87	0.25	1.00	11	.339
	Post							
Total	Pre	12	1.08	2.94	0.85	1.28	11	.228
	Post							

Note. SC = sentence completion; AJ = acceptability judgement of grammatical stimuli; *AJ = acceptability judgements of ungrammatical stimuli.

The results up until now show that input flooding and explicit instruction were effective in increasing the treatment group's use of target adverb placement. As mentioned in the Introduction, Trahey and White (1993) and Trahey (1996) concluded that an input flood combined with explicit instruction might lead to preemption of non-target word order, because input alone might not be sufficient for students to unlearn the ungrammatical L1 order. Figure 1 gives the percentage of different positions of adverbs on the pretest, by task.

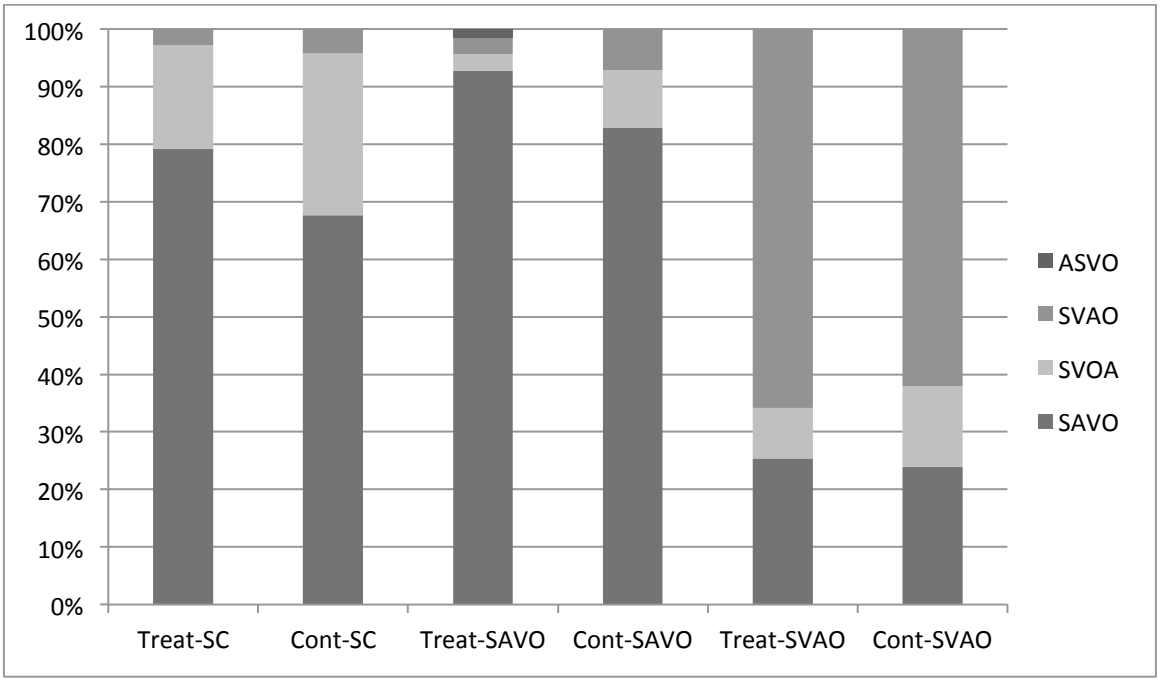

Figure 1. Percentage of responses by adverb position and task on the pretest. Treat = treatment group; Cont = control group; SC = sentence completion; SAVO = order on the judgement; SVAO = order on the judgement.

Most responses for both groups were SAVO, which is grammatical in the L1 and the L2: on the sentence completion task 79.2% for the treatment group and 67.6% for the control group, and on the judgement task 92.8% and 82.9% for each group respectively. With SVAO stimuli, participants in the treatment group corrected to SAVO in 25.4% of their responses, as did those in the control group in 23.9% of their responses.

Figure 2 gives the percentage of different positions of adverbs on the posttest, by task.

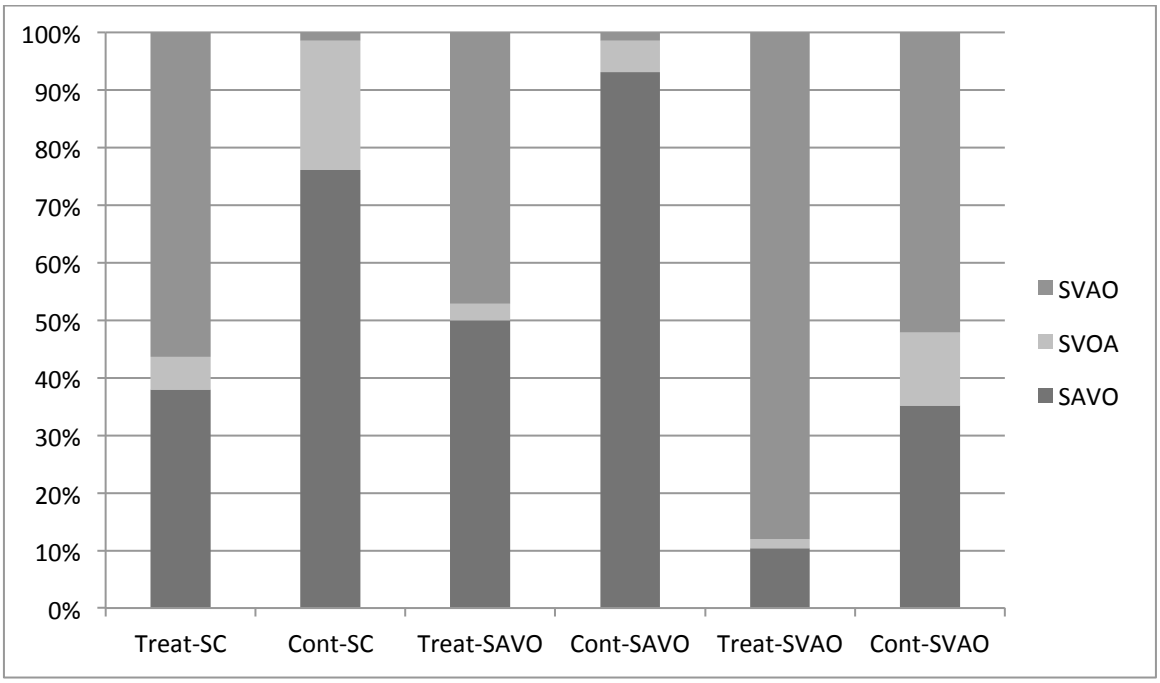

Figure 2. Percentage of responses by adverb position and task on the posttest. Treat = treatment group, Cont = control group; SC = sentence completion; SAVO = order on the judgement; SVAO = order on the judgement.

On the sentence completion task participants in the control group produced SAVO in 76.1% of their responses, compared to 67.6% on the pretest. With SAVO stimuli on the judgement task they accepted SAVO 93.1% of the time, compared to 82.9% on the pretest. They accepted SVAO stimuli 52.1% of the time, compared to 62% on the pretest. With SVAO stimuli, participants in the control group corrected to SAVO in 35.2% of their responses, compared to 23.9% on the pretest. In summary, the control group's production and acceptance of SAVO and SVAO on the pretest and posttest were similar, and as shown above, there were no significant differences in their pre- and posttest performances.

This was not the case for the treatment group. On the sentence completion task these participants produced SAVO in only 50% of posttest responses, compared to 92.8% on the pretest. With regard to SAVO stimuli, on the judgement task they accepted SAVO 50% of the time on the posttest, compared to 82.9% on the pretest. In 47.1% of their responses they corrected SAVO to SVAO. They accepted SVAO stimuli 88.1% of the time, compared to 65.8% on the pretest. To summarise, the treatment group produced and accepted significantly more SVAO orders on the posttests, although their performance was not native like.

An examination of the individual results of the treatment group gives a somewhat clearer picture. The number of correct responses ranged from 2/18 to 18/18, with a mean of 11, a median of 10.5 and a mode of 18. If scores are divided into under nine and above nine, 6/12 (50%) of the scores fall under nine (the range is 2 to 4, the mean is 5, the median is 5, and the mode is 5) and the other 50% fall above (the range is 13 to18, the mean is 17,

the median is 18, and the mode is 18). In other words, half of the participants in the treatment group had near-perfect scores, which could be considered native like.

Negative Adverbs

Each task contained two stimuli, one with *ne…jamais* and one with *ne…plus*. Table 4 gives the results with negative adverbs on pretests and posttests by group and task. Both groups had higher scores on the pretest with negative adverbs than they did with positive adverbs, with totals of 3.83/6.00 (63.83%) for the control group and 3.58/6.00 (59.66%) for the treatment group, compared to 4.41/12.00 (36.75%) and 4.17/12.00 (34.75%) with adverbs.

Table 4
Independent Samples t-Test Scores With Negative Adverbs by Group and Task

		N	*M*	*SD*	*SEM*	*t*	*df*	*p* (two tailed)
Pre SC	Cont	12	1.00	0.85	0.25	-0.71	22	.48
	InstrTreat	12	1.25	0.87	0.25			
Post SC	Cont	12	1.50	0.67	0.19	-0.94	22	.35
	Instr	12	1.75	0.62	0.18			
Pre AJ	Cont	12	1.83	0.58	0.17	0.00	22	1.00
	Treat	12	1.83	0.39	0.11			
Post AJ	Cont	12	1.83	0.39	0.11	-0.59	22	.56
	Instr	12	1.92	0.29	0.08			
Pre *AJ	Cont	12	1.00	0.85	0.25	1.30	21	.21
	Treat	12	0.55	0.82	0.23			
Post *AJ	Cont	12	1.25	0.87	0.25	-0.23	22	.82
	Treat	12	1.33	0.89	0.26			
Pre Total	Cont	12	3.83	1.85	0.53	0.37	22	.72
	Treat	12	3.58	1.44	0.42			
Post Total	Cont	12	4.67	1.43	0.41	-0.54	22	.59
	Treat	12	5.00	1.59	0.46			

Note. SC = sentence completion; AJ = acceptability judgement of grammatical stimuli; *AJ = acceptability judgements of ungrammatical stimuli; Cont = control group; Treat = treatment group.

An independent samples *t* test showed that there were no statistically significant differences between the control and treatment groups on the pretest for any of the tasks, again indicating that the two groups were homogenous before instruction ($t = -0.71$, $df = 22$, $p = .48$ on the sentence completion; $t = 0.00$, $df = 22$, $p = 1.00$ with grammatical stimuli on the judgement task; and $t = 1.30$, $df = 21$, $p = .21$ with ungrammatical stimuli on the judgement task). An effect size was calculated on the total pretest score: The effect was small (Cohen's $d = 0.105$).

Table 4 also gives the results on the posttest by group. Both groups' scores increased slightly; the control group's posttest score was 4.67/6.00 (77.8%, an increase of 14%) and the treatment group's was 5.00/6.00 (83.3%, an increase of 23.6%). An

independent samples *t* test showed that there were no statistically significant differences between the control group and the treatment group with negative adverbs on any of the tasks (t = -0.94, df = 22, p = .35 on the sentence completion; t = -0.59, df = 22, p = .56 with grammatical stimuli on the judgement task; and t = -0.23, df = 22, p = .82 with ungrammatical stimuli). An effect size was calculated on the total posttest score: The effect was small (Cohen's d = -0.219). These results are quite different from those with adverbs, where there was a large effect size for instruction.

Table 5 gives the results of a paired-samples *t* test, which measured the difference between each group's results on the pretest and posttest. There were statistically significant differences between the treatment group's total pre- and posttest scores (t = -2.33 df = 11, p = .040, α = .05), although there were no significant differences on the different tasks. These participants' total scores increased from 3.58/6.00 (59.66%) on the pretest to 5.00/6.00 (83.33) on the posttest. The control group improved significantly on the sentence completion task (t = -3.32, df = 11, p = .007, α = .05), from 1.00/2.00 (50%) to 1.50/2.00 (75%), and on their total scores (t = -2.42, df = 11, p = .034, α = .05), from 3.83/6.00 (63.83%) to 4.67/6.00 (77.83%).

Table 5
Paired-Samples t Test With Negative Adverbs by Task, Group and Test

		N	*M*	*SD*	*SEM*	*t*	*df*	*p* (two tailed)
Treatment								
SC	Pre	12	-1.41	2.11	.61	-1.59	11	.139
	Post							
AJ	Pre	12	-0.08	0.29	.08	-1.00	11	.339
	Post							
*AJ	Pre	12	-0.73	1.42	.43	-1.70	10	.120
	Post							
Total	Pre	12	-1.41	2.11	.61	-2.33	11	.040
	Post							
Control								
SC	Pre	12	-.50	0.52	.15	-3.32	11	.007
	Post							
AJ	Pre	12	-.08	0.67	.19	-0.43	11	.674
	Post							
*AJ	Pre	12	-.25	0.62	.17	-1.39	11	.191
	Post							
Total	Pre	12	-.83	1.19	.34	-2.42	11	.034
	Post							

Note. SC = sentence completion; AJ = acceptability judgement of grammatical stimuli; *AJ = acceptability judgements of ungrammatical stimuli.

Results on the posttest showed that learners were more proficient with negative adverbs, with posttest scores of 77.83% (4.67/6.00) compared to 61.11% (11/18) with adverbs. However, their pretest scores were also higher with negative adverbs, 59.67% (3.58/6.00) compared to only 23.17% (4.17/18.00) with positive adverbs. Improvement from pretest to

posttest was higher with positive adverbs 37.94% (6.83/18.00) compared to 23.66% (1.42/6.00) with negative adverbs.

Figure 3 summarises graphically the most important results of this study. In order to facilitate exposition of the data, only total pre- and posttest scores are given for the two types of adverbs, and these have been calculated as percentages so the positive and negative adverbs are comparable.

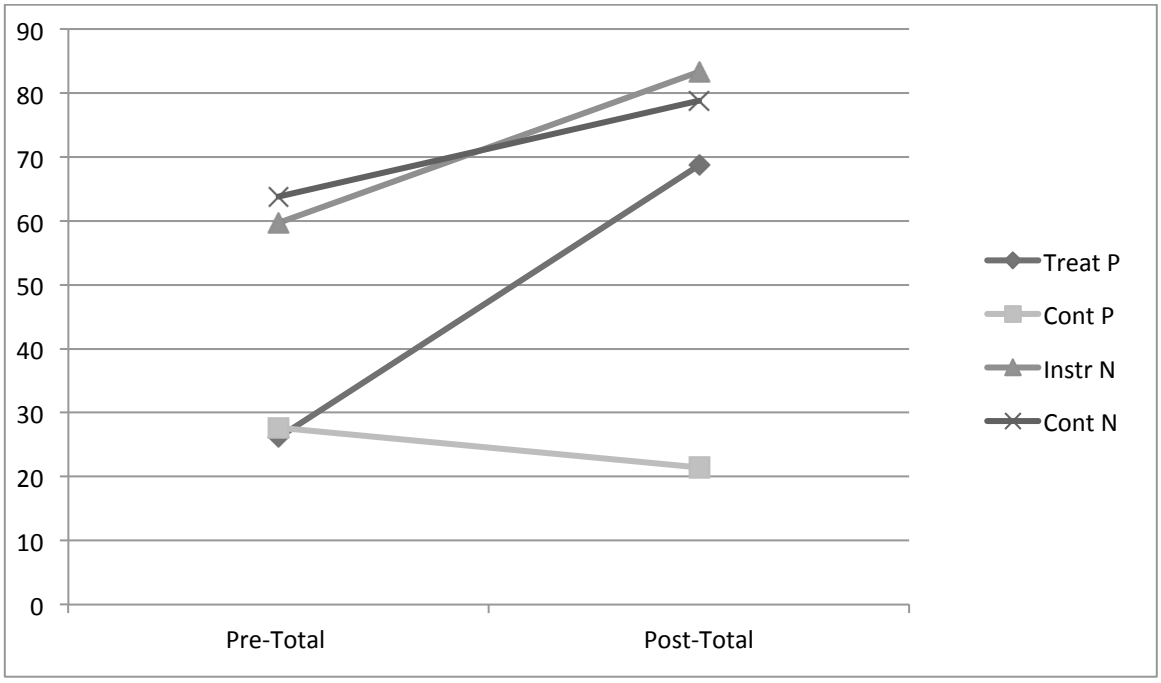

Figure 3. Total pre- and posttest scores with positive and negative adverbs by group. Treat = treatment group; Cont = control; P = Positive Adverb; N = Negative Adverb.

First of all, it is clear that with both positive and negative adverbs there were no differences between the groups before treatment began. Second, with positive adverbs the treatment group made large gains, from under 30% to almost 70%, while the control group's performance actually decreased from 30% to 20%. With negative adverbs both groups were strong to begin with, achieving scores between 60% and 65%, and both groups increased in the posttest to approximately 80%.

Discussion and Conclusion

The research questions guiding this study were whether an oral input flood coupled with FFI would be effective in helping learners acquire adverb placement in L3 French and whether these learners could unlearn non-target adverb placement. Since the results with positive and negative adverbs differed they will be discussed separately, beginning with positive adverbs.

Positive Adverbs

Results showed that a treatment of input flooding combined with FFI consisting of a variety of pedagogical strategies had a positive effect on the learning of adverb placement. To summarise the results, there were statistically significant differences and large effect sizes between the treatment groups' posttest scores and those of the control group, as well as between the treatment group's pre- and posttest scores. There were no significant differences and a small effect size between the control group's pre- and posttest scores. The current study therefore adds to the body of empirical studies that show an input flood coupled with FFI has a positive effect (Alanen, 1995; Doughty, 1991; Hernández, 2008; Scott, 1989; Shook, 1994; Zyzik & Marques Pascal, 2012), as well as to Norris and Ortega's (2000) conclusion, based on a meta-analysis, that input enhancement coupled with FFI is effective. As mentioned in the Introduction, most research on input flooding has used the written mode, the exceptions being Spada and Lightbown (1993) and Trahey and White (1993). Both studies found an oral input flood to be effective with elementary-school students whose L1 was French and who were learning ESL. The current study provides further support for the efficacy of an oral input flood, with adult learners of French whose L1 is Arabic.

The second research question was whether instructed learners would be able to replace non-target SAVO adverb placement with target SVAO. Not only did the treatment group accept and produce grammatical SVAO significantly more on the posttest, many of its members were also successful in rejecting *SAVO and correcting it to target SVAO, although some continued to produce and accept *SAVO. Trahey and White (1993) concluded that explicit rule presentation and correction might be necessary to enable students to unlearn non-target adverb placement: Learners need to be explicitly told that *SVAO is ungrammatical in English. Zyzik and Marques Pascal (2012) made a similar point: Their input flood group without explicit instruction only heard grammatical exemplars of DOMs with animate objects, and would need explicit rule presentation and negative evidence to learn that DOMs with inanimate objects were ungrammatical. The participants in the treatment group in the current study were given explicit instruction regarding target SVAO order and provided with recasts when they used ungrammatical word order (ASVO, SAVO or SVOA). The efficacy of recasts is a contentious one, with some studies showing a positive effect and other studies showing the opposite (Goo & Mackey, 2013). It is possible that recasts were not enough to show learners that SAVO was ungrammatical, and explicit instruction that SAVO was ungrammatical in French could lead to the total preemption of SAVO by target SVAO. Moreover, the learners in the current study were true beginners, having had only 15 hours of instruction in the French language when treatment began and 36 hours when the posttests were administered. If, as suggested by Trahey (1996), learners continue to receive instruction in adverb placement after the initial flood, non-target SAVO may be totally preempted.

It is worth pointing out that one third of the participants in the treatment group had native-like performance, accepting and producing target SVAO order in 100% of their responses. Another participant had 17/18 (94.4%) correct responses, so in total over 40% of participants had what could be considered native-like performance. Mahvelati and Mukundan (2012) found an input flood to be beneficial in the learning of collocations in L2 English, but only for learners who were field independent. Individual differences could have played a role in the current study, accounting for those who had native-like

performance and those who did not. The acceptance and production of non-target SAVO order by 60% of the participants, even after instruction, is likely due to the combined effect of it being the preferred order in the L1, Emirati Arabic, and the most frequent order in the L2, English. It is quite a remarkable achievement for those learners who did manage to override the combined effects of the L1 and the L2 after only 6 weeks of treatment. Paradoxically, the fact that SVAO is a possible order in the L1 might have facilitated participants' learning of this order in the L3, coupled with the fact that the instructor insisted on the fact that the same postverbal position was grammatical for *pas,* for other negative adverbs and for positive adverbs.

Negative Adverbs

Results showed that with negative adverbs both the treatment group and control group improved significantly from pretest to posttest, and there were no significant differences between the two groups after treatment. The control group was sensitive to the ordering of *ne* and the negative adverbs *jamais* and *plus,* although they had not been exposed to these two aspectual adverbs either by the instructor or in the textbook. These results differ from those with positive adverbs, where the control group did not improve from pretest to posttest and there were large effect sizes for instruction.

At first glance this seems to be an unexpected and somewhat surprising result, which contradicts the results with positive adverbs. It might be accounted for by the fact that both groups were taught basic negation with *ne...pas* at the beginning of the course and continued to practice it during the period of treatment, which began 6 weeks after basic negation was presented. The control group appeared to be able to make a connection between the postverbal position of *pas* and the two negative adverbs used in this study, *jamais* and *plus*. An anonymous reviewer asked if negative adverbs might be frequent in classroom interactions, which could have accounted for the control group's results. Unfortunately due to administrative exigencies it was not possible to make recordings in the classrooms in this study, so there is no way of knowing if negative adverbs were used in the control group's classroom. The analysis of classroom input in L. White (1990) did not make a distinction between negative and positive adverbs, but did show that adverbs in general were infrequent in the input in French L2 classrooms. Moreover, Rehner and Mougeon (1999) found that the participants in their study, high-school students in French immersion, used the negative adverb *pas* in 96% of their utterances containing negation, and that other negative adverbs (*aucun[e], jamais, personne, plus,* and *rien*) occurred only 4% of the time. This suggests that negative adverbs are not frequent in the input to French L2 learners.

The fact that in Emirati Arabic negative adverbs co-occur with a preverbal clitic negator *ma,* which is comparable to *ne* in French, and that the postverbal position is one possible position for adverbs in Emirati Arabic might also account for the control group's success with negative adverbs. Emirati Arabic consists simply of preverbal *ma* while in French it is discontinuous, with *ne* occurring preverbally, like *ma,* and *pas* occurring postverbally, in the same position as other negative adverbs. The instructor noted that learners in both groups had a tendency to use *ne* on its own and omit *pas*, and she always corrected them.[6] This correction would have highlighted the postverbal position of negative *pas* for both groups. The course manual also used textual enhancement to highlight the position of preverbal *ne* and postverbal *pas.* It appears that both groups successfully

transferred what they had learned about the postverbal position of *pas* to the negative adverbs *jamais* and *plus,* although the control group had no input or instruction with these negative adverbs. The input flood and FFI with negative adverbs did not seem to be necessary, since groups were equally accurate on the posttests.

It is also noteworthy that the control group did not make an association between the postverbal position of negative and positive adverbs in French, something the instructor did explicitly with the treatment group, using the previously presented negative form *ne…pas* as a starting point, drawing students' attention to the postverbal position of *jamais* and *plus*, and then indicating that positive adverbs occurred in the same position. The fact that enhanced input and instruction in simple negation did not aid the control group in their acquisition of adverb placement is consistent with L. White's (1990) finding that input with negation was not helpful for learners in determining adverb placement. It is also consistent with Hawkins's (2003) analysis, according to which learners posit a position for negation prior to acquiring the strength of tense, which accounts for adverb placement.

General Discussion

Since there were only two French classes being offered at the time the research was conducted, it was not possible in this study to contrast an input flood and FFI to an input flood with no instruction, as did Hernández (2008, 2011) and Hernández and Rodríguez-González (2012). These studies found no advantage for learners being told to attend to the targeted linguistic form. However, their findings are contrary to other research that has suggested learners need to be told to attend to input (e.g., Doughty & Williams, 1998; Han et al., 2008; Lee & Huang, 2008; White, J., 1998; Wong, 2005). In the present study it is likely that the input flood alone would not have been effective, as was the case in Trahey and White (1993), who studied the same linguistic variable. Whether the results of the current study would have been the same without any FFI is an open question, but the preponderance of evidence seems to support the contention that they would not.

In our study, the FFI included a variety of techniques—rule presentation and review, error correction, and pushed output—each of which could be considered an independent variable. Both Corbeil (2005) and Balcom and Lee (2009) concluded that a variety of FFI strategies can have a positive effect on students' learning; the latter noted that

> [w]hile utilising a number of pedagogical techniques means it is often difficult for the research to tease out which technique(s) brought about the desired effect, it does mean that the results can be more easily applied to L2 classrooms, in which teachers typically employ a variety of strategies to meet the individual needs of the students. (Balcom & Lee, 2009, p. 69).

The current study therefore contributes to the research on FFI, which may not be as strong in terms of internal validity but is robust in ecological validity. As was noted by Ellis (2010): "[t]he main advantage is that research carried out within classrooms has high ecological validity and thus is more likely to be heeded by practitioners" (p. 191).

Similarly, Pica (2005) has critiqued studies that were strong in terms of internal validity but lacked ecological validity:

> The elegance of their [attention to form and negative evidence] and the importance of their results for Second Language Acquisition (SLA) theory are offset somewhat by concerns about the authenticity of the treatments and the relevance and applicability of their results to actual classroom participants. (p. 340)

Limitations of the Study

Due to the exigencies of classroom-based research, particularly when the researchers are not the instructors, there are a number of limitations of this study. First of all, it was not possible to administer a delayed posttest because students were entering the period of final examinations, and it would have been difficult, if not impossible, to track down the students the following year.

Second, the ability to generalise the results of this study could be constrained by the fact that the participants were L3 learners, who in general have been shown to outperform L2 learners, due to the fact that they are less conservative in their learning strategies and have more metalinguistic awareness (Klein, 1995; Zobl, 1994). The participants in this study had similar results to L2 learners in an elementary school intensive course, but with much less exposure to the language (15 hours compared to approximately 300 hours), which suggests that L3 learners might learn more quickly. However, the results could be also due to the fact that learners were university students, or, as suggested above, that there was positive transfer from L1 Arabic.

Pedagogical Implications

In their study of FFI, Norris and Ortega (2000) noted that explicit treatments usually consisted of a variety of teaching strategies, including rule presentation and review, concentrated practice, and negative feedback, while implicit treatments consisted of one type of exposure, and suggested that this may have influenced results showing that explicit treatments were more effective than implicit ones. The results of the current study show that a combination of input flooding, textual enhancement, explicit rule presentation, pushed output, and correction all contributed to learning adverb placement. While it is not clear whether it was one of the techniques in particular or the array of techniques used by the instructor during the treatment period that were responsible for the improvement, results do show that the different techniques teachers have at their disposal are effective, whether alone or in concert with others. This is consistent with previous research. The pedagogical intervention in this study was beneficial in an input-poor language learning environment where learners had no exposure to the target language outside the classroom.

The fact that the control group performed as well on negative adverbs with *jamais* and *plus* as the target group, who received instruction about the meaning and position of these negative adverbs, suggests that learners will make an association between *pas* and *jamais* and *plus,* and that instructors could teach these negative adverbs along with *pas.* It is hard to know what contributed to successful learning, but the exclusive use of the target language in the text and by the instructor might be a contributing factor.

Finally, Spada and Lightbown (1993) and Trahey and White (1993) suggested that FFI accompanying an input flood should explicitly focus on key similarities and differences between the L1 and subsequent languages, specifically indicating what is ungrammatical in the target language. Learners in the present study were given an input flood of SVAO, and were provided with recasts if they produced adverbs in ungrammatical positions (ASVO, SAVO and SVOA), but they were not explicitly told that these positions were ungrammatical. A focus on similarities and differences in adverb placement could favour positive transfer and decrease the effect of negative transfer. Such instruction might lead more quickly to target-like performance. Of course this is only possible in classrooms that are homogeneous in terms of L1.

To conclude, in Simard and Jean's (2011) analysis of classroom interventions in FSL and ESL classrooms, of a total of 699 interactions-on-form techniques only one involved an input flood. Given the proven efficacy of input flooding combined with other pedagogical interventions, instructors might want to consider using it more in L2 classrooms.

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Notes

[1] In the overview of the literature that follows, researchers sometimes used different terms to cover various approaches to FFI, in particular implicit FFI, which includes recasts and clarification requests, and explicit FFI, which includes rule presentation and other meta-linguistic techniques. Both of these fall under Ellis' umbrella definition of FFI.

[2] The latter group was considered to be an input group since according to the theory of parameter setting current when the study was conducted, question formation in English would be positive evidence that verbs do not raise. This non-raising in English also accounts for SAVO adverb placement. In (referential) French SVAO order is due to the verb moving up past the adverb, as is subject-verb inversion with pronouns in questions as in (i):

(i) a. *Aime-t-elle Jean.*
b. *Likes she John.
c. Does she like John. (White, L., 1990, p. 339).

[3] "Aspectual adverbs" (Cinque, 1999, 2004) is employed as a cover term to include habitual (e.g., *sometimes*), frequentative (e.g., *often),* terminative (e.g., *anymore*) and perfective, (e.g., *ever*) adverbs.

[4] As explained under Participants, basic negation with *ne…pas* was introduced in the first chapter, 6 weeks before the pretest, and was practiced throughout the period of treatment. It was not a variable in this study and was not included in the pre- and posttests.

[5] We would like to thank an anonymous reviewer who indicated that asking questions evoking responses with an adverb could be considered pushed output.

[6] This phenomenon also occurs with L1 speakers of Romance languages with preverbal negation (e.g., Spanish, Portuguese, Italian) in French immersion classes (Rehner & Mougeon, 1999). We would like to thank Katherine Rehner for pointing this out to us.

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