

Figure 5. Comparison of Mean Syntacticized T-units by Negotiators (N =10) vs. Interactors (N =5)

This finding raised the question: Would the Interactors do as well as the Negotiators in syntacticizing over time? Hypothesis 3b had predicted that the Negotiators would syntacticize more over time than the Interactors. Mean syntacticized T-units were compared for both groups over time. The entire transcripts for the Negotiators and the Interactors were coded for evidence of syntacticization. T-units, one clause plus any attached or embedded subordinate clauses (Hunt 1970), were selected as an appropriate written unit of analysis, as they would reveal learners' abilities to consolidate more information within one grammatical unit by shifting from simple juxtaposition or loose coordination to subordination. Figure 5 displays the results of a comparison of syntacticized T-units by the Negotiators and the Interactors over time.

Figure 5 shows that both groups began at a similar level (about 0.7) but the Negotiators outsyntacticized Interactors at Times 4, 6, 8. Both groups followed a similar pattern: rising to Time 4, declining to Time 6, and rising slightly to Time 8. An ANOVA revealed no significant difference between the groups. Negotiators were not better than the Interactors at syntacticizing over time. The analysis was broadened with a comparison of both groups in terms of the mean instances of syntacticization per T-unit over time. Results of this analysis are reported in Figure 6.

From Figure 6, we can observe that the Interactors began at a slightly higher level than the Negotiators (1.0 vs. 0.9), but the Negotiators caught up by Time 6 (both approximately 1.1). The Negotiators peaked sooner than the Interactors (Time 6 vs. Time 8) and appeared to have a flatter profile overall than the Interactors. An ANOVA revealed no statistical differ-

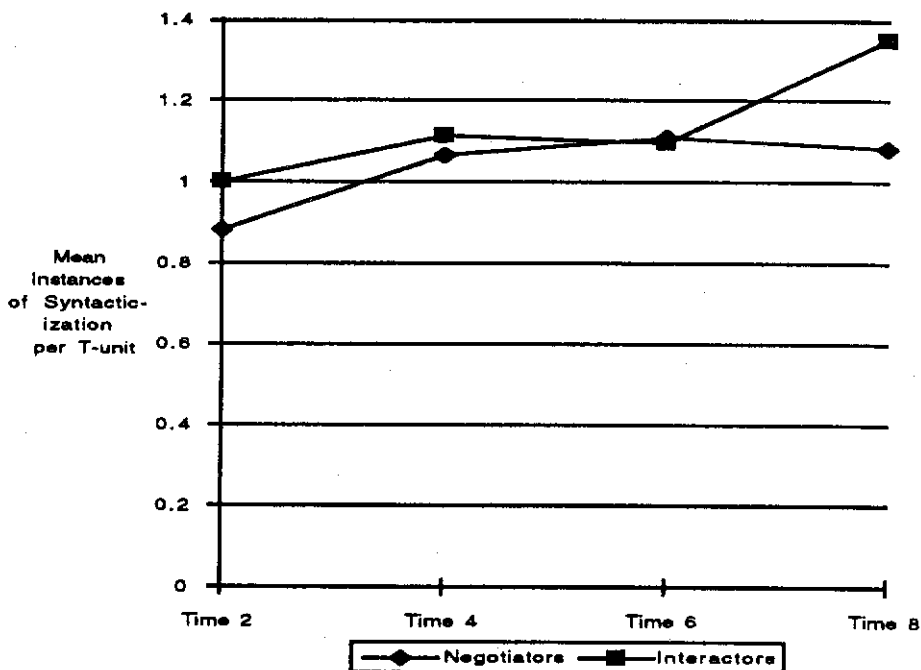


Figure 6. Comparison of Mean Instances of Syntacticization per T-unit over Time for Negotiators (N = 10) versus Interactors (N = 5)

ence between the groups over time. Syntacticization appeared to continue regardless of the type of discourse learners engaged in.

When group gain scores from the pretests to the posttests and delayed posttests were analyzed, no significant differences were obtained between the Clarifiers, Confirmers, Interactors or Gamers (see Figure 2). The tests had targeted tense and aspect, partly because the jigsaw tasks were primed for these structures and partly because tense and aspect figure so prominently in syntacticization. The results demonstrated that the experimental treatment had no immediate or delayed impact on learners' knowledge of tense and aspect. In the following section, we turn to several issues that were raised by these findings.

Discussion

In her work on SLA, Sato (1986) found limited evidence for syntacticization. Her learners had low frequencies of inflectional past tense verbs (*smashed*), more lexical past tense (*brought*) and adverbials (*yesterday*), some evidence of shifting from loosely coordinated propositions to subordinated propositions, but an absence of infinitival complements (*he wanted to go to the store*) and a near absence of relative clauses (*its about a boy who likes stories*) and gerundive complements (*he taught us about using computers*) Results from the present study, however, revealed that negotiation could assist syntacticization within a relatively short period of time and that a variety of syntacticized features were evident. In other words, there was evidence that syntacticization had occurred not only in terms of

Table 2. Postulated Intermediate Processes Within Syntacticization

Process	Description	Example
<i>Level 1:</i>		
Baso-syntactic	zero—>first syntax (word order)	(1) <i>pot break she</i> —> (2) <i>she break pot</i>
<i>Level 2:</i>		
Meso-syntactic	any syntax—>any other syntax (WO—>morph)	(3) <i>she pot breaked</i> —> (4) <i>she broke pot</i> —> (5) <i>she broked pot</i>
<i>Level 3:</i>		
Acro-syntactic	syntax 1—>syntax 1+ (morph—>adverb)	(6) <i>she broke pot cried</i> —> (7) <i>after she broke pot, she cried</i>

Note: —> indicates 'changes to'.

verb and noun morphology but also for subordinate, infinitival, and passive structures. What might account for this discrepancy?

We could argue that because negotiation was more intensive and more available under the specified experimental conditions, learners were more likely to syntacticize than under naturalistic conditions when negotiation is far less frequent. This line of reasoning might be sufficient were it not for the fact that Sato's learners were at a lower level of proficiency than those in the present study. Therefore, a more profitable explanation might lie in Sato's own critique of Givon's original framework in which she suggested that syntacticization, although not necessarily a smooth linear process, might proceed through a series of intermediate stages. If true, this could account for the apparent disparity in results between Sato's study and the present research, as her learners were at the beginner rather than intermediate level. Table 2.0 displays postulated intermediate processes within syntacticization.

As shown in Table 2, three stages were postulated for syntacticization. The baso-syntactic would entail a shift from zero to first syntax, the meso-syntactic from any syntax to any other syntax, and the acro-syntactic from syntax 1 to syntax 1+. Stages might overlap to some extent as learners progressively syntacticized their interlanguage. Table 3.0 shows some examples from further analysis of the data based upon intermediate stages of syntacticization.

When the data was re-analyzed, no cases of baso-syntactic change were found, but there were 57 cases out of 79 that were meso-syntactic (mean 0.7215) and 22 out of 79 that were acro-syntactic (mean 0.2785). The baso-syntactic example in Table 3.0 shows that 3rd -s was added to the verb *dig* but subsequently dropped. Word order had already been established in this learner's interlanguage. In the acro-syntactic example, *becaus* was added in response to a signal (*I do not understand*). Here the learner moved the independent clause in the trigger to a dependent clause in the response.

Note also that a meso-syntactic process occurred simultaneously as *was sapray* was modified to *sapraing*. On the basis of this postulated description, then, we might argue that Sato's subjects were probably at the baso-syntactic level and those in the present study were predominantly at the meso-syntactic level. Learners at the baso-syntactic level would probably require greater amounts of comprehensible input due to their limited L2 resources, but those at the meso-syntactic level would need more negotiation in order to manipulate their increasing L2 resources. We could hypothesize that learners at the acro-syntactic level might need greater correction to ensure more accurate use of their fairly developed L2 repertoire.

A second issue that was raised by the current research was the relationship between syntacticization and L2 development. This study showed that negotiation could stimulate and continue syntacticization over time, but appeared to have no observable impact on knowledge of tense and aspect (as shown by lack of significant difference in gain scores between groups on pre/posttests). Does that mean syntacticized changes require more time or perhaps different types of discourse to impact interlanguage systems?

Although data from the present study might suggest that negotiation was inadequate to make a significant impact, such a view is premature. It remains arguable that negotiation made impact on syntacticization and that it could affect L2 development; however, there are three reasons why this was not evident in the data. First, the validity of the tests used in the study was somewhat limited. The tests targeted only tense and aspect, but a broad range of syntacticized structures were evident in negotiations (relative clauses, prepositions, possessives, Q types, etc.). Only 15.04% of negotiations were over tense and aspect; therefore, 84.96% of negotiations were over other forms (lexical, other structural).

Second, SLA research has shown that interlanguage change may not necessarily follow a linear path (Meisel, Clahsen, & Pienemann 1981). Klein (1986) has argued that interlanguage change might be irregular as the pressure to analyze an L2 and to synthesize it into a learner's interlanguage system might vary considerably. According to another viewpoint, it is conceivable that unanalyzed chunks from the L2 could serve as input for learners' developing interlanguage systems later on (Lightbown 1994).

Several recent empirical studies have found that reprocessed interlanguage could indeed be maintained over time. In a study of ESL learners, Oliver (1994) found that learners incorporated only ten percent of recasts by NSs because (a) NSs continued the conversation, thereby denying the NNS any opportunities for incorporation, and (b) learners were given yes-no questions which, again, had the effect of denying them opportunities for interlanguage manipulation. Her findings suggest that with more opportunities to manipulate interlanguage within conversations learners would probably incorporate more.

Swain (1994) cites two studies that also provide evidence for the view that learners who manipulate their interlanguage could benefit over the

Table 3.. Examples of Subprocesses of Syntacticization

Sub-process	Learner	Researcher
<i>Meso-Syntactic</i>	<i>Task:</i> 'Carrot Seed Story'	
	he dig the carrot plant up and he is the carrot is bring hand car	Please explain what you mean
	he digs the carrot plant up and the carrot separated the bruch	what?
	he dig up the soil and put the carrot plant out the ground	ok
<i>Acro-Syntactic</i>	<i>Task:</i> 'Baseball Game'	
	ball is going to elevter	I do not understand
	boy and dog was sapray becaus ball was goon	sorry?
	ball on the elevter boy looking and sapraing	I understand. ok.

long term. La Pierre (1994) studied French L2 in a grade 8 immersion classroom over one month. She found that negotiation over language form led to 80% correct solutions on a test targeted on those structures a week later. Donato (1994) investigated American college students in French L2 classrooms. She observed that after students had engaged in scaffolded discourse 75% of those structures used were produced correctly one week later.

Summary, Limitations, and Future Research

This article has reported the results of an experimental study designed to investigate the potential role of one type of social interaction in the process of syntacticization. The major findings are that negotiation could provide a context for syntax learning in an L2 and that it could continue to do so over time. However, negotiation was no better at this than was social interaction where opportunities for negotiation were denied. Also, negotiation made no observable impact on learners knowledge of tense and aspect over the duration of the study. When different types of negotiation moves were examined, it was found that clarification requests were more effective than confirmation checks in assisting syntacticization in short periods of time but that over longer stretches this effect was annulled.

Future research could examine the impact of a variety of types of discourse at low, intermediate, advanced levels on syntacticization. The effectiveness of negotiation versus correction could be investigated, for example, in relation to longitudinal syntacticized change. Another area for work, as mentioned above, is in the development of tasks that are structure-focused yet meaningful. Some preliminary work has been accomplished, but a great deal remains to be done (Fotos & Ellis 1991; Mackey 1994, 1995; Loschky & Bley-Vroman 1990). Negotiation has considerable potential for exploring these dimensions of the L2 learning process.

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Volume 11, Number 2

Fall/Winter 1995

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