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Synthesizing Social and Cognitive Approaches in SLA

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Abstract

In an effort to investigate developmental episodes in additional language learning using both cognitive and social frameworks, this working paper presents results of a pilot study based on a task-based language learning session. A total of forty participants at a Japanese university carried out a pedagogical task in five steps, including both interactive and independent steps. No instruction was provided. Approximately 3,000 responses were collected and examined for comprehension of target forms, and for the rationales provided for form selection. The quantitative analysis indicates significant gains in comprehension and the qualitative data show a shift in the trajectory of participant thinking as a result of participating in a task session. Commentaries from participants provide insights into the social and cognitive aspects of their developmental processes.

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For quite some time in the field of second language acquisition (SLA) there have existed two prominent, distinct and sometimes conflicting approaches to explicating the processes of SLA. One approach explores the cognitive dimensions of language learning processes with studies increasing our understanding of underlying mental mechanisms involving additional language development. Empirical studies following this approach often employ quantitative measures seeking to test hypotheses to construct theory and to assist learners in accelerating the rate of their learning. Another approach has a more ontological focus in which contextual phenomena and learners' interactions in a specific context are observed. These observations have implications for improving learning contexts in terms of environmental, ideological, and cultural considerations, among other factors. Empirical observation, description and interpretation of social factors present in a learning environment is a vital activity in the field of SLA. Both of these approaches have generated significant scholarship since the 1960s and advanced the field of SLA to the point where it has become an *autonomous discipline* (Larsen-Freeman, 2000). These two approaches differ in their theoretical underpinnings, their style of inquiry, and their implications for pedagogy. And these differences can sometimes be bewildering, particularly for those new to the field and who may feel the need to select one approach over the other.

In this paper, I revisit key elements of the theoretical frameworks underlying work focused on the cognitive and social dimensions of SLA. Following that review, I provide a brief description of some implications each approach offers for additional language teaching and learning. In an attempt to illustrate the application of both cognitive and social frameworks, I examine developmental

episodes in additional language learning and present results of a pilot study based on a task-based language learning session.

Relevant Theory

The last three decades have witnessed a thriving scholarship regarding the role of cognition in SLA. Following developments in cognitive psychology, cognitive science, and psycholinguistics over the last three decades, the cognitive dimensions of second/additional language[1] development attracted plentiful attention from SLA scholars and researchers (e.g., Bialystok, 1994; DeKeyser, 2007; Doughty, 2001; Ellis, 1999; Hulstijn, 1995; Robinson & Ellis, 2008; Schmidt, 1990, 1994; Sharwood Smith, 1981; Williams, 2005). The view of this strand of research is summarized in the statement, "cognition is a general term, referring to the representation and processing of any information in the mind" (Hulstijn 2007, p. 197). SLA scholars who advocate a dynamic cognitive approach to SLA explore the processes involved in automatization, information processing, attentional resources and control, the functions of working-memory capacity in relation to pedagogy, and conditions supporting implicit and explicit linguistic knowledge construction, among other phenomena.

It is important to acknowledge here that there is a school of cognitively-oriented SLA scholars who approach their work adopting a developmental perspective rather than adopting generative linguistics from the perspective of Universal Grammar. These accounts include the Connectionist model (e.g., Tomasello, 2003), Usage-based SLA (e.g., Bybee, 2008) and Emergentism (e.g., Ellis, 2006; MacWhinney, 1998, 1999). Consequently, the frameworks employed by a number of scholars who explore the cognitive dimensions of SLA have focused on information processing within human interaction among learners, as well as with more advanced peers and teachers in particular contexts, including instructed contexts. This line of work broadened the ways in which scholars and everyday practitioners perceived language learning processes. It also led to a revitalized appreciation of language teaching pedagogy, particularly for task-based language teaching (TBLT) (e.g., Leow, 2000; Long, 1997; Loschky & Bley-Vroman, 1993; Pica, 2008; Robinson, 2001; Skehan, 1998. For a meta-analysis on the cognition hypothesis in relation to TBLT, see Jackson & Suethanapornkul, 2013). These works complemented the ongoing development of TBLT, which followed the innovative developments of the 1970s and 1980s as originated by a generation of prominent SLA scholars (e.g., Allwright, 1979; Breen, 1987; Candlin, 1987; Johnson, 1979; Prabhu, 1980, 1982). While not limited to TBLT, the cognitive perspective in understanding SLA is also reflected in feedback studies, which examine ways to assist learners "noticing" (Schmidt, 1990, 1994) the gap between their own interlanguage system and target linguistic systems and by promoting subsequent learning opportunities through implicit or explicit feedback (Gass & Alvarez Torres, 2005; Long, 1996; Long, Inagaki, & Ortega, 1998; Ortega, 2009a; Pica, Kang, & Sauro, 2006; Varonis & Gass, 1985). The subject of human interaction addressed in this line of work includes the provision

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[1] In this paper, I use the terms 'additional language' and 'second language' interchangeably for any additional languages being learned beyond the first language(s).

of negative evidence by a caretaker to a young learner; the provision of an implicit mode of feedback in the classroom by a teacher; the negotiation of meaning and form among learners; the collaborative reconstruction of text forms in the classroom such as is seen in dictogloss tasks among learners; and meaning-oriented communication during language learning tasks or activities, to name a few examples. As defined by Robinson and Ellis (2008):

> Cognitive Linguistics and usage-based models therefore emphasize that language is learned from participatory experience of processing input and producing language during *interaction* in social contexts where individually desired non-linguistic outcomes (a bank transfer, another cup of milk) are goals to be achieved (or not) by communicating intentions, concepts and meaning with others. (p. 490). (Italics in original).

Admittedly the scholars engaged in this line of work might not have explicitly viewed interaction as a *socially co-adaptive* process (Larsen-Freeman, 2006; Larsen-Freeman & Cameron, 2008) specifically focusing on societal relationships. Yet, human interaction is recognized ultimately as the key element in this line of study.

Meanwhile a renewed interest in sociocultural perspectives in SLA took form in the 1990s (Lantolf, 1996).[2] Lantolf and his colleagues took inspiration from Vygotsky's (1934/1986) theory of learning, addressing the importance of the sociocultural dimensions of SLA (Lantolf, 2006; Lantolf & Appel, 1994; Lantolf & Thorne, 2006). Lev Vygotsky, recognized as one of the most influential psychologists in the early part of the twentieth century, proposed that children's cognitive development is best understood as being established in social interaction. Contextually situated cognition is the key element for children's development and is represented in the concept of the *zone of proximal development* (ZPD). In the framework of ZPD, children can achieve higher level tasks with the assistance of more capable peers or adults, who provide scaffolding (Vygotsky, 1978). His works have been interpreted and represented in many different academic domains, including in the field of SLA. Lantolf has remained one of the leading scholars endorsing Vygotsky's theory. Lantolf and colleagues take the position that language learning is mediated by social interaction: "While human neurobiology is a necessary condition for higher order thinking, the most important forms of human cognitive activity develop through interaction within…social and material environments" (Lantolf & Thorne, 2007, p. 201-202). A similar concept has also been forwarded by Merrill Swain (2000), who reframed her *output hypothesis* "into a sociocultural framework" (Ortega, 2009b, p. 67).

Social and cultural contexts in additional language development have been a central theme in other domains of applied linguistics, for instance in language ideology, critical discourse analysis, bilingual education and sociolinguistics (see Hornberger, 2008; McKay & Hornberger, 1996). In the field of SLA, social and cultural contexts have increasingly attracted attention in recent years

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[2] In the 1960s and 1970s, growing concerns related to the social aspects of language use was forwarded partly in response to Chomsky's notion of Universal Grammar (1965). Instead of viewing language as a set of constrained abstract rules, a number of SLA scholars addressed the social functions languages serve. For example, Michael Halliday (1973, 1985) proposed a *systemic functional linguistics* in which language was viewed as a resource to realize meanings in context.

such as in studies of on-line language learning and teaching (Thorne, Black, & Sykes, 2009), the conversation-analytic approach to SLA (Kasper, 2006), and in microethnographic classroom-based study (Hellerman, 2006). Furthermore, this line of work informed practices in TBLT as well as in feedback studies by offering different theoretical constructs, or, by re-conceptualizing frameworks put forward at an earlier time (e.g., Aljaafreh & Lantolf, 1994; Nassaji & Swain, 2000; Ohta, 2000; Roebuck, 2000; Swain, 2006; Wigglesworth & Storch, 2012). Conversely, this cognitive and sociocultural debate has been the source of some tension in the field of SLA at times. Some scholars endorse theory constructed by hypothesis testing and by seeking generalizable outcomes in search for positivist explanations of learning processes, while others support ontological illustrations of phenomena related to learning from sociocultural perspectives (see Jordan, 2004 for further review).

Reflecting on these contrasting views in the field of SLA, Larsen-Freeman (2010) advises that "it is not uncommon for multiple theoretical perspectives to coexist in a field, especially when they are seen to be incommensurate" (p. 42). She further notes that in the history of SLA such situations have indeed occurred and that it is possible for "the field…[to] broaden its theoretical commitment and to embrace both perspectives" (p. 42). Meanwhile Hulstijn (2007) cautions that:

> the study of SLA in the 21st century faces both threats and challenges. The worst-case scenario would be a divide between…(factors internal to cognition), on the one hand, and the study of…social context (external factors), on the other. This is a danger that we must and can avert. (p. 200).

In this vein, Atkinson (2010) advocates an "approach to SLA…based largely on *extended* and *embodied* conceptualization of cognition" (p. 24, italics original). Earlier he also proposed "a sociocognitive (perspective)…a view of language and language acquisition as simultaneously occurring and interactively constructed both 'in the head' and 'in the world'" (Atkinson, 2002, p. 525). For some, there is no gap to bridge between cognitive and social approaches to additional language learning and teaching since most language learning takes place in socially and culturally integrated contexts and learning is cognitive by definition (e.g., DeKeyser, 2014).

Reviewing earlier studies on the topic of interaction in SLA and instructional approaches including the role of error treatment, a number of works provide insights leading later scholars and practitioners to achieve benefits by paying attention to both learner cognition and social factors. For instance, Chaudron (1990) reports various types of instructional strategies which reflect learners' psychological perceptions as influenced by social factors and institutional culture (e.g., Cathcart, 1986). Another issue Chaudron (1990) addresses is when, how, and to whom to provide corrective instructional treatments that feature potentially stigmatizing effects (Hendrickson, 1978). Meanwhile, the director of the original TBLT project, N. S. Prabhu, informed us that "successful language acquisition was the outcome of cognitive processes engendered by the effort to communicate" (referenced in Howatt with Widdowson, 2004, p. 347). Similarly, the role of meaning in language use within specific contexts

has been recognized consistently as critically important in creating successful learning opportunities (Celce-Murcia, 2002; Celce-Murcia & Larsen-Freeman, 1999; Johnson & Porter, 1983; Richards, 2006; Widdowson, 1978; Wilkins, 1976. See Howatt with Widdowson, 2004; Kelly, 1969 for a review). From these viewpoints, the focus is on the generic accomplishment of language, rather than genetic endowment of language, as Widdowson (1996) reflected disputing the conceptualizations of generative linguistics. It is likely the case that both internal cognitive processes and external interaction in social settings encompassing cultural, emotional, ideological, and political dimensions are indispensable to understanding the intricate nature of additional language development. More frequently in recent years, SLA scholars are advocating the notion of an integrated sociocognitive approach in SLA (see Atkinson, 2011; Batstone, 2010), and a dynamic system of additional language development, drawing from complexity theory (Larsen-Freeman, 2011; Larsen-Freeman & Cameron, 2008). However, there have been a limited number of empirical studies that attempt to integrate cognitive and social perspectives and provide clear evidence of episodes in classroom-based teaching and learning that could potentially illustrate successful language development.

Accordingly, this working paper reports on a study that investigates whether any observable changes take place during a language learning task-session designed to promote both internal cognitive operations and distributed cognition situated in interaction through meaning-oriented collaborative work. This paper presents one part of a study which involved two groups: one group receiving teacher-initiated form-focused intervention, and the other receiving no intervention from the teacher. It reports on the outcomes of the latter group, in which participants interacted among peers who are in the same age group and share similar educational and sociocultural backgrounds but did not receive instruction from the teacher.

Research Questions

The research questions for this portion of the study are twofold:
1. Do opportunities to reflect both independently as well as collaboratively in interaction have an effect on form comprehension during a task-based language learning session?
2. Do opportunities to reflect both independently as well as collaboratively in interaction have an effect on the *grounds expressed for the selections of forms*?

Methods

The description of the research methodology begins with the research setting, and is followed by descriptions of the participants, the task, and the experimental procedures.

Setting

The study was carried out in EFL classrooms at a private Japanese university. This selection was made in part to constrain the demographic variables in this

quasi-experimental study. A majority of students in Japan share the same first language (L1). Likewise, a majority of students in Japan are raised in similar sociocultural settings, when compared to other regions, including North America. The students in Japan are also in the same age group. Their educational backgrounds are also similar, due to the nationwide standard educational curricula administered by the Ministry of Education, Culture, Sports, Science and Technology. In order to secure a similar background in peer-to-peer interaction, the homogeneity of the participants' L1, age, sociocultural and educational background was helpful for the current study.

An additional rationale for the selection of the research site was related to the selection of the target form in the task design: modal auxiliary verbs (hereafter, modal verbs). An important consideration was the participants' familiarity/ unfamiliarity regarding the use and epistemic meanings of *may*. The deontic meaning of a modal verb is concerned with necessity, obligation and permission, as in "you may begin," while the epistemic meaning of a modal verb is concerned with estimation of likelihood, inference or possibility, as in "this dress may be too fancy." Modal verbs were one of the topics included in the curriculum at the site, and prior to the current study a similar task with modal verb *must* was conducted by approximately 100 students at the same university among participants who shared a similar background as the participants in the current study. The difficulty index for the comprehension of 'must' was approximately .46-.54 prior to the experiment, indicating that students provided correct and incorrect answers in approximately equal proportions. Although the modal verb employed in this study is not identical to the modal verb used in the previous study, it is likely that participants in the current study would find the target forms to be moderately difficult.

Participants

A total of 45 students majoring in science and management in three classes[3] participated in the current study. Data from five participants out of 45 were not included in the current analysis due to the illegibility of their handwriting or the ambiguous nature of their responses. Their average age is 20 years old and the duration of English language study varied from six years to eight years, with a mean of seven years. The gender ratio was approximately 60% male and 40% female. Their occupational aspirations are for positions working in commerce or engineering. The proficiency level for their English language skills varies in scale and skill domains: for reading, intermediate-mid to advanced-low; for writing, intermediate-low to advanced-low; for listening, novice-high to advanced-low; and for speaking, novice-mid to advanced-low, according to the 2012 American Council on the Teaching of Foreign Languages (ACTFL) proficiency guidelines. These observations were made by the site teacher, a tenured professor at the site university with over 30 years' teaching experience specializing in EFL. Two additional adjunct instructors at the site university and I also offered our observations. The lack of equivalency in different skills are thought to be the

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[3] Students in an additional three classes also conducted the same task, and they received teacher-initiated instruction regarding the target forms. This paper only provides outcomes for the groups which received no teacher-initiated instruction regarding the target forms.

result of students growing up in a monolingual setting, with little necessity to use English language in communication on a daily basis, as well as the result of the heavy emphasis on reading and writing in their English education systems.

Task

The pedagogical task designed for this study (also referred to as a *structure-trapping task*, as indicated by Skehan, 1998) consists of two scripts: one script for each of the participants in dyads. I designed the script based on a story involving the 12th century English knight William Marshall, his relationship with his family and the English monarchy during his career. The scripts consist of four paragraphs with each paragraph consisting of four to six sentences, a total of 376 words fitting onto one page, with 1.5 line breaks. The usages of the deontic and the epistemic meanings of *may* in various contexts remain the target forms in this pedagogical task. The two scripts are almost identical, except for twelve target forms: the deontic meaning of *may* (e.g., *xxx may decide…*) and the epistemic meaning of *may* (e.g., *xxx may have decided …*). In other words, there were twelve target forms of 'may' in each script, in different forms. When a sentence in one script is written with *may* that could potentially be understood as a deontic meaning of *may* (e.g., *xxx may decide…*), the other scripts included the same sentence except that the target form could be potentially understood as the epistemic meaning of *may* (e.g., *xxx may have decided…*). Both forms are grammatically acceptable if isolated from the context. However in the context of the script, one form is correct and the other incorrect (e.g., *completing the crusade was his dead master's wish and William may have decided [may decide] to continue the effort in honor of his late master…*). The site teacher informed the participants that one out of the two options was correct and the other was incorrect. He also indicated that correct versions were randomly distributed between the two scripts, meaning that not all correct forms were included in one script versus the other script used in a dyad.

Experimental Procedures

In order to control the variables in this quasi-experimental study conducted in a naturalistic setting, rather than in a laboratory setting, participants in the study engaged in the experiment only once. The advantage of a one-off experiment in a naturalistic setting is that participants will have no exposure to outside resources subsequent to the experimental session, so the source of the effect of the task could be isolated.

The site teacher, who has taught at this university for over thirty years, conducted the session. I prepared the task, the answer sheet, and instructions for participants regarding the conduct of the activity. These materials were distributed by the site teacher. In order to secure participant anonymity, participants did not provide their names on task answer sheets, but rather used their student number. Participants were also told that the site teacher was not intending to review their answer sheets and, thus, their performance for the session would not be reflected in their grades. Pairs were randomly assigned, with the site teacher requesting participants to pair up with someone sitting next to them. Students could sit at any desk according to their own preference.

The experiment took five steps, as shown in Table 1 below:

Table 1
Experimental procedures in five steps

Activities	Duration
Step 1: One participant in each dyad silently reads paragraphs one and three out of the four paragraphs in the task script, and the other participant reads paragraphs two and four. After they spend time working to understanding the assigned contents, both participants orally exchange a summary of each paragraph. The site teacher calls together all participants at the end of the step and confirms some contents of the story line as a group.	15 min
Step 2: One participant in each dyad reads the task script out loud to their partner. The other participant listens and marks the sections which differ from his/her script. Both students note the words that differ when they identify them.	20 min
Step 3: Each participant examines the different forms (two versions of twelve forms) silently. Each selects the forms that he or she thinks correct.	20 min
Step 4: Partners in dyads compare their notes and decide which form is correct in dyads.	20 min
Step 5: Participants individually reflect on the form selections for the final session. The site teacher explains that their final answer can be different from that selected during step 3 or 4.	10 min

During Step 1, the participants were expected to grasp the overall storyline of the script. This step involved an oral communication session in dyads. During this step, I hoped to direct participants' thoughts to the meaning of the story line, prior to directing their attention to the forms isolated from the meaning of the story lines in the script. During Step 2, the participants were expected to identify the 12 different forms. In Steps 3 and 5, the participants thought about the selection of correct form and their rationales for their selections. In Step 4, the participants communicated in dyads in an effort to decide what form was correct between two options and noted their rationales in dyads.[4] Two monologic steps provided participants opportunities to reflect on the target form selections and work independently to identify the rationales for their selections, and in that process generate internal cognitive operations. The interactive step provided an opportunity for participants to exchange opinions in dyads and talk over the target form selections as well as their rationales for the selections, generating distributed cognition in peer-to-peer interaction.

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[4] Steps 2 and 4 follow similar procedures in other script-based tasks, such as the spot-the-difference task in Pica et al. (2006).

Analysis

In this study, I first reviewed the rate of selection of correct/incorrect forms, and then I examined the rationales for these selections. The qualitative data in the text of the rationales were then coded and analyzed with descriptive statistical measures. Finally, additional qualitative data were also reviewed. This mixed-method approach was used in order to examine data from multiple dimensions. For the data analysis of Step 2, I tallied the number of instances in which participants noted the different forms. This inquiry was followed by analyses corresponding to the two research questions. Notes during Step 4 (the interactive step) were rather limited (326 blanks out of 480 for form selections). Hence, I analyzed data from Steps 2 (identifying target forms in scripts), 3 (an independent step) and 5 (an independent step). I tabulated all data in an Excel file, including form selections and rationale types. Subsequently, I ran statistical analyses with the Statistical Package for the Social Sciences (SPSS) version 20, as described below.

Analysis of Step 2: Identifying Different Forms

Among forty participants, 459 out of 480 items (12 items times 40 participants) were noted, 95.6% of the potential items. This suggests that 21 items were overlooked, likely to be unnoticed during Step 2. Subsequently, participants who overlooked these items at this Step 2 stage left no reflections on those items in the following sections.

Analysis of Research Question 1

The first research question asks whether opportunities to reflect independently as well as collaboratively in interaction have an effect on form comprehension during a task-based language learning session. In order to answer this question, I reviewed the numbers of correct and incorrect answers provided during the first attempt to select forms by participants working independently (Step 3), and the final selections (Step 5). A summary is included in Table 2.

Table 2
Form selections: Step 3 and Step 5 comparisons

	Step 3	*Step 5*
Correct selections	323	346
Incorrect selections	132	93
Blank	25	41
Total	480	480

The correct selections increased by 23, and incorrect selections decreased by 39. The blanks included those 21 items unnoted during Step 2, plus four new items during Step 3. The blanks during Step 5 also included the 21 items unnoted

during Step 2 and 20 new items. I believe this number in Step 5 includes those instances when the participants ran out of time, or meant to indicate that they would provide the same answer as in the previous steps. In the next stage of the study, I plan to provide codes for whether items were intended to be the same as in the previous steps or were evidence of the dyads running out of time. Table 3 shows a summary of the descriptive statistics of form selections in Steps 3 and 5.

Table 3
Descriptive statistics: Form selections

Step 3		Step 5		Gain
M(SD)	SEM	*M(SD)*	*SEM*	*M*
.67(.47)	.21	.72(.45)	.20	.05

Note. SEM = Standard Error of the Mean

The outcomes from a paired sample *t*-test indicate that scores in Step 3 and Step 5 obtained from the same participants are significantly different from each other ($t = 2.397$, $p = .017$). This is an indication that thinking independently twice (Steps 3 and 5) and the interaction that took place during Step 4 had a positive effect on form comprehension.

Analysis of Research Question 2

The second research question addressed participants' rationales for their form selection: whether opportunities to reflect independently as well as collaboratively in interaction have an effect on the grounds expressed for the selections of forms. While reviewing the participants' qualitative reflections, certain characteristics surfaced. The rationales fell into the categories of (a) Meaning-oriented; (b) Grammar rule-oriented rationale; (c) Statement of implicit knowledge; (d) Statement indicating the answer was provided as a result of collaboration, and (e) Blank. These rationales were provided both in English and Japanese. In cases in which participants left rationales in Japanese, two Japanese-English bilingual professionals provided audits of my original translation.[5] When disagreements occurred, the specific text was reviewed by three reviewers until inter-reviewer agreement was obtained, up to 90%. I address the implication of the use of L1 in the discussion section.

Rationales under category (a) are those which referenced the meaning of the scripts for the selection of forms. This includes *"William's father didn't care if Williams is killed, so he said 'do that' to the King,"* for selecting *'may go ahead…'*, over *'may have gone ahead…'* The rationales under category (b) encompass reasons for selections based on grammar rules, often employing meta-linguistic terminology. The rationales often shown in this category entailed attempts to coordinate the same tense-aspect for the verbs in the script, such as *"the sentence before this is in past tense so this is also past tense."* It is evident that these rationales show no attempt to extend cognitive effort

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[5] Three bilingual individuals have translation backgrounds between five to 30 years.

to exploring the implications of the meaning of the story lines in relation to the form selections. In other instances, this type of rationale was associated with correct selections, for example the provided rationale '*simple form*' (base form), for selecting '*may go ahead…*'. Category (c) consists of rationales that indicated participants' implicit knowledge, such as "*I don't know why but I feels like 'this is it!'*" Rationales included in category (d) expressed implications of collaboration, representative of reasoning for the selection of certain forms resulting from discussions with partners. Additional sample answers for each category are provided in Appendix A. There are a number of instances in which participants did not provide rationales. I believe these are items when participants had difficulty in coming up with rationales for selecting forms, those dyads who ran out of time or meant to provide the same rationales as in previous steps. Again, I plan to provide codes for those instances in the next stage of the study.

Table 4 presents a summary of the rationales provided in each category.

Table 4
Rationales: Step 3 and Step 5 comparisons

	Step 3	Step 5
(a) Meaning-oriented form rationales	192	207
(b) Grammar rule-oriented form rationales	72	54
(c) Statement of implicit knowledge	100	25
(d) Statement indicating the answer was provided as a result of collaboration	0	74
(e) Blank	116	120
Total	480	480

The number for meaning-oriented rationale increased by 15 while grammar-oriented rationales decreased by 18. The statements of implicit knowledge decreased significantly, by 75%. No participants stated a rationale for their selection of form as a result of collaboration during Step 3, before interaction took place during Step 4. The number of blank items increased slightly, and it is assumed that some of the blanks in Step 5 are instances in which participants meant to repeat the same answer provided in the prior steps or were simply running out of time.

Investigating closely each of the changes made between Step 3 and Step 5, Table 5 summarizes the frequency of changes, with a cross-tabulation between Steps 3 and 5. Each row shows the rationales provided during Step 3 and columns show the rationales provided during Step 5. In other words, 77 represents the frequency of instances in which participants left no rationale, 'Blank' during the Step 3 and again left no rationale during Step 5.

Table 5
Cross-tabulation between Step 3 and Step 5 in rationale for selection of forms

	Meaning rationale in S5	Grammar rationale in S5	Implicit rationale in S5	Collab rationale in S5	Blank rationale in S5	Total
Meaning rationale in S3	136	7	1	21	27	192
Grammar Rule rationale in S3	16	36	2	6	12	72
Implicit Knowledge rationale in S3	29	5	19	43	4	100
Blank rationale in S3	26	6	3	4	77	116
Total	207	54	25	74	120	480

Note. S3 = Step 3. S5 = Step 5. Collab = Statement indicating the answer was provided as a result of collaboration

In analyzing closely the changes made, a majority of meaning oriented reflections during Step 3 remained the same in Step 5. While I tabulated data sets, I came to recognize that a few individuals left no reflections during Step 5, and the 24 instances for changes made from meaning-oriented rationales to blank clustered in responses from two individuals. Participants changed rule-oriented rationales to meaning-oriented rationales in 16 instances while 36 reflections with rule-oriented rationales remained consistent between Step 3 and 5. Rationales that originally implied implicit knowledge (e.g., *I heard something like this somewhere.*) were the most frequently changed. In 43 instances rationales that implied implicit knowledge were changed to a statement indicating that the answer was provided as a result of collaboration, in 29 instances rationales changed from implicit knowledge to meaning-oriented rationales, and in 19 instances rationales remained consistent as statements of implicit knowledge. Understandably no participant left rationales regarding collaboration during Step 3, prior to the interactional session taking place during Step 4 and as a result, no row is included in Table 5 for rationales regarding collaboration. The items with no reflections during Step 3 remained the same during Step 5 in 77 instances. In 26 instances, reflections were changed to meaning-oriented reflections.

For categorical percentages within subjects in repeated measures data, the McNemar-Bowker chi-square test was employed. Due to the experimental design, there are no rationales for (d) at Step 3, "Statement indicating the answer was provided as a result of collaboration," since at this stage none of participants interacted in dyads in order to select correct forms and identify their rationales. Hence the McNemar-Bowker test was run excluding (d) in order to include symmetrical variables between Step 3 and 5. The outcomes show significant results ($X^2_6 = 33.10$, $p < .0001$), indicating that changes participants made in their

rationales were not symmetrical across categories. For instance, (c) statements of implicit knowledge during Step 3 shifted to (a) meaning-oriented rationales during Step 5 in 29 instances. Meanwhile, (a) meaning-oriented rationales during Step 3 shifted to (c) Statements of implicit knowledge during Step 5 in only one instance.

Commentaries by Participants

Although I had not requested participants to forward commentaries, eighteen participants out of forty left unprompted brief comments on the bottom of the task answer sheets providing their impressions of the experience. All comments were prepared in Japanese and I assume they were messages participants wished to convey to me, the researcher, since the site teacher indicated that he did not plan to review the answer sheets to insure that the results would have no effect on participants' semester final grades. These voluntary commentaries complement the aforementioned data by providing insight into learners' views and interpretations and by illustrating different dimensions of learner cognition and interaction. I translated these comments and two bilingual auditors reviewed those translations. In order to preserve the specific and authentic expressions of the participants' commentaries, sentences prepared by participants are translated as close to their original wordings as possible. These comments can be largely classified into five categories as follows:

Regarding Interactions

There are a total of six commentaries regarding interaction:

I think it is better to work with someone because I can hear different ideas, different opinions and thoughts.

This is great - I can communicate with someone in class.

We can share different thoughts, so it may be possible that it is easier to understand this way.

It is fun to work together. We can learn better by working together.

It is hard to do this but I think our understanding becomes much better when we work together.

It is totally better to work together with a partner.

These comments appear to underscore the effect of the interactions that took place in Step 4. As mentioned earlier, I do not present an analysis for Step 4 in this paper due to the limited number of reflections forwarded by the participants in this step. However some of those who left comments also left their reflections during Step 4. It is noteworthy that the final comment referenced here was made by an individual who provided correct form selections and meaning-oriented rationales during her/his individual sessions, Steps 3 and 5. However, during the interactive session, in Step 4, this individual changed her selection of form and made an incorrect form selection. In other words, this individual appeared to become confused during the interactive session. But when she thought about the form selection again individually in Step 5, she returned to her correct form selection, and her rationale for this form selection again returned to a meaning-oriented rationale. The sample

described here indicates that in some cases, interaction could solicit bafflement between peers with a similar proficiency level.

Regarding Collective Benefits of Interaction and Individual Sessions

There was one statement promoting the advantage of combining interaction in dyads and individual sessions:

> By working on my own, and with my partner, my understanding of English became deeper.

Regarding Individual Sessions

Two individuals reflected on his or her desire to have a longer duration of time to work individually:

> I learned a lot but I wanted to have more time to think on my own too;

> This is fun! But I needed to think calmly by myself longer.

Regarding the Task Session and Teacher Fronted Sessions

As mentioned earlier, this task-based language learning session did not involve any teacher instruction in order to track the benefit of interaction and individual thinking, although an explanation was provided in a post-task activity during the class session subsequent to this task. Four individuals left commentaries both positive and negative regarding not having instructions from the teacher:

> It is so much better to work on something rather than just listen to the lecture. I now understand better.

> I would like to use this activity as the final confirmation after I know all rules. It would have been smoother to work on it if I knew rules better.

> I think one-way teaching might have made it easier to understand.

> I do not think this approach to learn English suits me. It would be better to do this when my English is more advanced. I want my teacher to teach me for now.

Although there was plentiful evidence of attempting to work, for instance in writing some words on the answer sheet and then crossing them out, the latter two individuals left a majority of their answers blank. It might be the case that these two individuals were partners during the task session.

Regarding Benefits of Tasks in Relation to Grammar Structures

Regarding English language learning more in general, five individuals noted on their learning English during this task session:

> My understanding on grammar got deepened.

> I love the story and working on English with it.

> I now understand some specific grammar rules.

> I recognized the need for studying grammar, and understand the tense more. I now know that needs.

I understand that I do not know grammar by doing this activity. For that reason, I think it was meaningful to work on this.

Discussion

This pilot study investigated whether any observed changes take place in form comprehension and the grounds given for the form selection when participants are offered opportunities to reflect independently as well as collaboratively in interaction during a task-based language learning session. The two research questions proposed are both answered in the affirmative, showing that opportunities to reflect independently and interactively had significant effects on form comprehension as well as on the grounds expressed in reflections on form selections. The qualitative data provided by participants as rationales in particular reveal the shift in their way of thinking. In 71 instances in which participants provided rationales for form selection that were grammar rule-oriented (e.g., *I need to use the same tense form as the sentence before*), expressed implications of implicit knowledge (e.g., *just feel like it, I heard it somewhere before*), or in which participants provided no rationale, participants shifted in the later step to meaning-oriented rationales (e.g., *because has been developing reputation since …*). These shifts between Step 3 and Step 5 are indications of instances in which participants became capable of extending their cognition to consider deeper meanings, rather than remaining focused on surface features (e.g., *reliance on the use of meta-linguistic knowledge*), or being uncertain. Furthermore, these shifts in the trajectory of participants' thinking patterns illustrate the effect of individual cognitive operations, as well as the sharing of ideas and opinions with a partner, and then reflecting on their partner's responses, possibly adapting their thinking or negotiating with partner.

Reviewing the individual sessions closely, the individual thinking processes in evidence can be viewed as an intrasubjective experience. Executive control is at work in retaining the most immediate past information, making connections between current incoming information and the information stored in long-term memory, as well as in operating comprehension, solving problems, formulating new ideas, and acting on immediate goals. With regards to generating reflections while interacting with a peer, the process could be understood as one in which learners co-adapt knowledge momentarily or non-sequentially via language use mediated by intersubjective experience, in this case interacting with peers with whom they share similar linguistic, educational, and cultural backgrounds. The positive outcomes seen in this study can be understood as the result of internal holistic interactions with self as a person, and holistic interaction with peers using language while expanding their cognitive operations to co-adapt or negotiate with their peers. Meanwhile, one could also argue that the positive outcomes in the current study are the result of repetitive cognitive operations. However, producing opportunities to explore novel ways of thinking, as shown in changes in rationales for the selection of forms in this study (Table 5), might not be attainable in isolated repetitive work. As one of the participants mentioned, "sharing different thoughts, ideas, and opinions" could foster language development in a more robust fashion.

The voluntary comments by the participants were mixed, but they included six reflections with positive comments regarding the opportunity to think interactively with a peer, someone of the same general age and L1 and with whom they shared a similar educational, cultural and potentially ideological background. Three

individuals indicated their desire to have a teacher provide information, although they did not reflect negatively on communicating with a peer. One individual forwarded positive remarks on having both individual and interactive sessions in a task. Two individuals requested a longer duration of time to think independently. Other remarks were related to TBLT or comparisons to teacher-fronted lectures. In these commentaries, more than half of the participants indicated perceived 'learning' or 'deepening understanding', even though they received no instructional intervention. All in all, these commentaries reflect the positive effect of the experience of independent thinking and reflecting in an interactive session with a peer.

Earlier in the data analysis, I mentioned my intention to address the use of L1 during the task session. As indicated in participants' rationales for form selections, participants employed both their L1 and English language quite flexibly in an interchangeable fashion in this plurilingual situation. Their task materials were entirely prepared in English, and participants reflected on English language in the context of a story line written in English on the topic of an English historical figure. It is understood that while they worked on the task independently and interacted with their partners, they reflected on the English language, employing linguistic resources from a plurilingual repertoire. In the studies of bilingualism, it has been long acknowledged that the maintenance of an L1 contributes to the development of an L2 (e.g., Cummins, 1993). Addressing a sociocultural theory of mind, Swain (2000) reflected on the use of thr L1 in TBLT asserting that "the L1 serves as a tool that helps students…to understand and make sense of the requirements and content of the task; to focus attention on language form, vocabulary use, and overall organization" (p. 268). And recently, the practice of translanguaging is well established in the community of bilingualism research (Hornberger & Link, 2012; Velasco & García, 2014; Williams, 1994). The term translanguaging originated as a Welsh word used in bilingual education in the 1980s in Wales. Baker (2011) defines *translanguaging* "the process of making meaning, shaping experiences, gaining understanding and knowledge through the use of two languages" (p. 288). The term draws a contrast with the more conventional view of bilinguals as two monolinguals in one person (e.g., García 2008). In this view, switching codes between two or more languages is sometimes seen as evidence of deficiency to a certain degree, or as an incident of language struggle. Translanguaging in pedagogical terms is a type of educational practice which inspires more dynamic and multifaceted mental processes in the functional use of languages. This type of practice "offers possibilities for teachers and learners to access academic content through the linguistic resources and communicative repertoires they bring to the classroom while simultaneously acquiring new ones" (Velasco & García, 2014, p. 268). The practice of translanguaging also provides a "vivid and explicit instantiation of the continua of biliteracy" (Hornberger & Link, 2012, p. 273). The phenomena seen in the task session for this study supports the proposition that translanguaging episodes enable bountiful learning opportunities.

This pilot study could use some improvements on several fronts. As mentioned in the data analysis, a good number of participants left no comments during Step 4, an interactive section. The exact reason for this phenomenon is unknown to me at this point. In the next phase of the study, I plan to secure reflections on each step and analyze results in three different steps (first individual session, interactive session, and the final individual session). In addition, creating codes

for "running out of time," "the same answer as the previous section" and "I do not have the answer" for participants to use while working on the task would make data processing straightforward and the outcomes more defined. Finally, the commentaries forwarded by the participants offered authentic voices revealing their feelings and help validate the data analysis. These comments were offered voluntarily at this stage, without any prompt in the study. In the next step of my study, I plan to include surveys soliciting such input directly.

Concluding Remarks

As has been often noted, language is shaped by human cognition, but human cognitive acts do not necessarily require talking (Beckner et al., 2009). "Language is used for human social interaction" (Beckner et al., 2009, p. 3) and language can emerge from that interaction via a co-adaptive system (Larsen-Freeman & Cameron, 2008). Further, a considerable number of SLA scholars recognize that "the social dimension of language is indispensable" (Larsen-Freeman & Cameron, 2008, p. 126), not only for learners but also for researchers and educators who wish to explore additional language developmental processes. And yet, as of this writing, there remain many divergent opinions regarding how much "weight to be attributed to the social aspect of language learning" (Hulstijn, 2014, p. 15). In the current study, both cognitive and social perspectives inform the design of a pedagogical task. The successful learning outcomes appear to provide positive evidence for instructional designs which integrate intra-subjective and inter-subjective experiences with peers in the absence of teacher-initiated instruction. I propose that a synthesis of cognitive and social considerations both in research as well as in instructional design may be achievable and productive in some instances. As is the case for many domains of human learning, it is our conscious or non-conscious cognition that initiates and instantiates personal knowledge. Concurrently, acts of socialization, engaging other minds, stimulates, induces and facilitates those internal learning processes.

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References

Aljaafreh, A., & Lantolf, J. P. (1994). Negative feedback as regulation and second language learning in the zone of proximal development. *Modern Language Journal, 78*(4), 465-483.

Allwright, R. (1979). Language learning through communication practice. In C. J. Brumfit & K. Johnson (Eds.), *The communicative approach to language teaching* (pp. 167-182). Oxford, UK: Oxford University Press.

Atkinson, D. (2002). Toward a sociocognitive approach to second language acquisition. *Modern Language Journal, 86*(4), 525-545.

Atkinson, D. (2010). Sociocognition: What it can mean for second language acquisition. In R. Bastone (Ed.), *Sociocognitive perspectives on language use and language learning* (pp. 24-39). Oxford, UK: Oxford University Press.

Atkinson, D. (2011). *Alternative approaches to second language acquisition.* New York, NY: Routledge.

Baker, C. (2011). *Foundations of bilingual education and bilingualism.* Clevedon, UK: Multilingual Matters.

Batstone, R. (Ed.). (2010). *Sociocognitive perspectives on language use and language learning.* Oxford, UK: Oxford University Press.

Beckner, C., Blythe, R., Bybee, J., Christiansen, M. H., Croft, W., Ellis, N. C., ... Schoenemann, T. (2009). Language is a complex adaptive system: Position paper. *Language Learning, 59*(1), 1-26.

Bialystok, E. (1994). Representation and ways of knowing: Three issues in second language acquisition. In N. C. Ellis (Ed.), *Implicit and explicit learning of languages* (pp. 549-569). London, UK: Academic Press Inc.

Breen, M. P. (1987). Learner contributions to task design. In C. N. Candlin & D. Murphy (Eds.), Language learning tasks. *Lancaster practical papers in English language education* (pp. 23-46). Englewood Cliffs, NJ: Prentice Hall.

Bybee, J. (2008). Usage-based grammar and second language acquisition. In P. Robinson & N. C. Ellis (Eds.), *Handbook of cognitive linguistics and second language acquisition* (pp. 216-236). New York, NY: Routledge.

Candlin, C. N. (1987). Towards task-based learning. In C. N. Candlin & D. Murphy (Eds.), *Lancaster practical papers in English language education* (pp. 5-22). Englewood Cliffs, NJ: Prentice Hall.

Cathcart, R. L. (1986). Situational differences and the sampling of young children's school language. In R. R. Day (Ed.), *Talking to learn: Conversation in second language acquisition* (pp. 118-139). Rowley, MA: Newbury House.

Celce-Murcia, M. (2002). Why it makes sense to teach grammar in context and through discourse. In E. Hinkel & S. Fotos (Eds.), *New perspectives on grammar teaching in second language classrooms* (pp. 119-133). Mahwah, NJ: Lawrence Erlbaum.

Celce-Murcia, M., & Larsen-Freeman, D. (1999). *The grammar book: An ESL/EFL teacher's course.* Boston, MA: Heinle and Heinle Publishing Company.

Chaudron, C. (1990). *Second language classrooms: Research on teaching and learning.* Cambridge, UK: Cambridge University Press.

Chomsky, N. (1965). *Aspects of the theory of syntax.* Cambridge, MA: MIT Press.

Cummins, J. (1993). Bilingualism and second language learning. *Annual Review of Applied Linguistics, 13*, 51–70.

DeKeyser, R. M. (Ed.). (2007). *Practicing in a second language: Perspectives from applied linguistics and cognitive psychology.* Cambridge, UK: Cambridge University Press.

DeKeyser, R. M. (2014). The philosophy of science and the social-cognitive dichotomy in research in language learning and teaching. In J. H. Hulstijn, R. F. Young, L. Ortega (Eds.), Bridging the gap: Cognitive and social approaches to research in second language learning and teaching. *Studies in Second Language Acquisition, 36*(3), 5-8.

Doughty, C. (2001). Cognitive underpinnings of focus on form. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 206-57). Cambridge, UK: Cambridge University Press.

Ellis, N. C. (1999). Cognitive approaches to SLA. *Annual Review of Applied Linguistics, 19*, 22-42.

Ellis, N. C. (2006). Selective attention and transfer phenomena in SLA: Salience, contingency, interference, overshadowing, blocking, and perceptual learning. *Applied Linguistics, 27*(2), 164-194.

García, O. (2008). *Bilingual education in the 21st centure: A global perspective.* Malden, MA: Wiley-Blackwell.

Gass, S., & Alvarez Torres, M. J. (2005). Attention when?: An investigation of the ordering effect of input and interaction. *Studies in Second Language Acquisition, 27*(1), 1-31.

Halliday, M. A. K. (1973). *Explorations in the functions of language.* London, UK: Edward Arnold.

Halliday, M. A. K. (1985). *An Introduction to functional grammar.* London, UK: Edward Arnold.

Hellerman, J. (2006). Classroom interactive processes for developing L2 literacy: A microethnographic study of two beginning adult learners of English. *Applied Linguistics, 27*(3), 377-404.

Hendrickson, J. M. (1978). Error correction in foreign language teaching: Recent theory, research, and practice. *Modern Language Journal, 62*, 387-398.

Hornberger, N. H. (Ed.). (2008). *Encyclopedia of language and education.* New York, NY: Springer.

Hornberger, N. H., & Link, H. (2012). Translanguaging and transnational literacies in multilingual classrooms: A bilingual lens. *International Journal of Bilingual Education and Bilingualism, 15*(3), 261–278.

Howatt, A. P. R. with Widdowson, H. G. (2004). *A history of English language teaching.* Oxford, UK: Oxford University Press.

Hulstijn, J. H. (1995). Not all grammar rules are equal: Giving grammar instruction its proper place in foreign language teaching. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 359-386). Honolulu, HI: University of Hawai'i Press.

Hulstijn, J. H. (2007). Fundamental issues in the study of second language acquisition. *EUROSLA Yearbook, 7*, 191-203.

Hulstijn, J. H. (2014). Epistemological remarks on a social-cognitive gap in the study of second-language learning and teaching. In J. H. Hulstijn, R. F. Young, L. Ortega (Eds.), Bridging the gap: Cognitive and social

approaches to research in second language learning and teaching. *Studies in Second Language Acquisition, 36*(3), 15-20.

Jackson, D., & Suethanapornkul, S. (2013). The cognition hypothesis: A synthesis and meta-analysis of research on second language task complexity. *Language Learning, 63*(2), 330–367.

Johnson, K. (1979). Communicative approaches and communicative processes. In C. J. Brumfit & K. Johnson (Eds.), *The communicative approach to language teaching* (pp. 192-205). Oxford, UK: Oxford University Press.

Johnson, K., & Porter, D. (Eds.). (1983). *Perspectives in communicative language teaching.* London, UK: Academic Press.

Jordan, G. (2004). *Theory construction in second language acquisition.* Amsterdam: Benjamins.

Kasper, G. (2006). Beyond repair: Conversation analysis as an approach to SLA. *AILA Review, 19*, 83-99.

Kelly, L. G. (1969). *25 centuries of language teaching.* Rowley, MA: Newbury House Publishers.

Lantolf, J. P. (1996). Second language theory building: Letting all the flowers bloom! *Language Learning, 46*, 713-749.

Lantolf, J. P. (2006). Sociocultural theory and second language learning: State of the art. *Studies in Second Language Acquisition, 28*, 67-109.

Lantolf, J. P., & Appel, G. (Eds.). (1994). *Vygotskyan approaches to second language research.* Norwood, NJ: Ablex.

Lantolf, J. P., & Thorne, S. L. (2006). *Sociocultural theory and the genesis of second language development.* Oxford, UK: Oxford University.

Lantolf, J. P., & Thorne, S. L. (2007). Sociocultural theory and second language learning. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition* (pp. 201-224). Mahwah, NJ: Lawrence Erlbaum.

Larsen-Freeman, D. (2000). Second language acquisition and applied linguistics. *Annual Review of Applied Linguistics, 20*, 165-181.

Larsen-Freeman, D. (2006). The emergence of complexity, fluency, and accuracy in the oral and written production of five Chinese learners of English. *Applied Linguistics, 27*, 590-619.

Larsen-Freeman, D. (2010). The dynamic co-adaptation of cognitive and social views: a complexity theory perspective. In R. Bastone (Ed.), *Sociocognitive perspectives on language use and language learning* (pp. 40-53). Oxford, UK: Oxford University Press.

Larsen-Freeman, D. (2011). A complexity theory approach to second language development/acquisition. In D. Atkinson (Ed.), *Alternative approaches to second language acquisition* (pp. 48-72). New York, NY: Routledge.

Larsen-Freeman, D., & Cameron, L. (2008). Research methodology on language development from a complex systems perspective. *Modern Language Journal, 92*, 200-213.

Leow, R. P. (2000). A study of the role of awareness in foreign language behavior: Aware vs. unaware learners. *Studies in Second Language Acquisition, 22*, 557-584.

Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of second language acquisition* (pp. 413-468). San Diego, CA: Academic Press.

Long, M. H. (1997). *Focus on form in task-based language teaching.* Fourth Annual McGraw-Hill Satellite Teleconference.

Long, M. H., Inagaki, S., & Ortega, L. (1998). The role of implicit negative feedback in SLA: Models and recasts in Japanese and Spanish. *Modern Language Journal, 82*, 357-371.

Loschky, L., & Bley-Vroman, R. (1993). Grammar and task-based methodology. In G. Crookes & S. Gass (Eds.), *Tasks and language learning: Integrating theory and practice* (pp. 123-167). Clevedon, UK: Multilingual Matters.

MacWhinney, B. (1998). Models of the emergence of language. *Annual Review of Psychology 49,* 199-227.

MacWhinney, B. (1999). *The emergence of language.* Mahwah, NJ: Lawrence Erlbaum.

McKay, S. L., & Hornberger, N. H. (Eds.). (1996). *Sociolinguistics and language teaching*. Cambridge, UK: Cambridge University Press.

Nassaji, H., and Swain, M. (2000). A Vygotskian perspective on corrective feedback in L2: The effect of random versus negotiated help on the learning of English articles. *Language Awareness 1*, 34-52.

Ohta, A. S. (2000). Rethinking interaction in SLA: Developmentally appropriate assistance in the zone of proximal development and the acquisition of grammar. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 51-78). Oxford, UK: Oxford University Press.

Ortega, L. (2009a). Interaction and attention to form in L2 text-based computer-mediated communication. In A. Mackey & C. Polio (Eds.), *Multiple perspectives on interaction in SLA: Research in honor of Susan M. Gass* (pp. 226-253). New York, NY: Routledge.

Ortega, L. (2009b). *Understanding second language acquisition.* New York, NY: Routledge.

Pica, T. (2008). Task-based teaching and learning. In B. Spolsky and F. Hult (Eds.), *Handbook of educational linguistics* (pp. 525-538). Oxford, UK: Blackwell.

Pica, T., Kang, H., & Sauro, S. (2006). Information gap tasks: Their multiple roles and contributions to interaction research methodology. *Studies in Second Language Acquisition, 28*(2), 301-338.

Prabhu, N. S. (1980). Teaching English as communicative proposal for syllabus design methodology evaluation. Newsletter, special series, Vol. 1(4). *Regional Institute of English South India, Bangalore-52*. Warwick: The Dicken's Collection, University of Warwick.

Prabhu, N. S. (1982). *The communicational teaching project, South India.* Madras, India: The British Council.

Richards, J. C. (2006). *Communicative language teaching today.* Cambridge, UK: Cambridge University Press.

Robinson, P. (2001). Task complexity, task difficulty, and task production: Exploring interactions in a componential framework. *Applied Linguistics, 22*, 27-57.

Robinson, P., & Ellis, N. C. (Eds.). (2008). *Handbook of cognitive linguistics and second language acquisition.* New York, NY: Routledge.

Roebuck, R. (2000). Subjects speak out: How learners position themselves in a psycholinguistic task. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 79-95). Oxford, UK: Oxford University Press.

Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics, 11*, 17-46.

Schmidt, R. (1994). Deconstructing consciousness: In search of useful definitions for applied linguistics. *AILA Review, 11*, 11-26.

Sharwood Smith, M. (1981). Consciousness-raising and the second language learner. *Applied Linguistics, 2,* 159-69.

Skehan, P. (1998). *A cognitive approach to language learning.* London, UK: Oxford University Press.

Swain, M. (2000). The output hypothesis and beyond: Mediating acquisition through collaborative dialogue. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 97-114). Oxford, UK: Oxford University Press.

Swain, M. (2006). Languaging, agency and collaboration in advanced second language learning. In H. Byrnes (Ed.), *Advanced language learning: The contribution of Halliday and Vygotsky* (pp. 95-108). London, UK: Continuum.

Thorne, S. L., Black, R. W., & Sykes, J. (2009). Second language use, socialization, and learning in Internet interest communities and online games. *Modern Language Journal, 93*, 802-821.

Tomasello, M. (2003). *Constructing a Language.* Boston, MA: Harvard University Press.

Varonis, E., & Gass, S. (1985), Non native/non native conversations: A model for negotiation of meaning. *Applied Linguistics, 6*, 71-90.

Velasco, P., & García, O. (2014). Translanguaging and the writing of bilingual learners. *Bilingual Research Journal*, *37*(1), 6–23.

Vygotsky, L. (1934/1986). *Thought and language.* Cambridge, MA: MIT Press.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Widdowson, H. G. (1978). *Teaching language as communication.* London, UK: Oxford University Press.

Widdowson, H. G. (1996). *Linguistics.* Oxford, UK: Oxford University Press.

Wigglesworth, G. & Storch, N. (2012). Feedback and writing development through collaboration: A sociocultural approach. In R. Manchon (Ed.), *L2 Writing Development: Multiple Perspectives* (pp. 69-99). Berlin, Germany: Walter de Gruyter.

Wilkins, D. A. (1976). *Notional syllabuses.* Oxford, UK: Oxford University Press.

Williams, C. (1994). *Arfarniad o ddulliau dysgu ac addysgu yng nghyd-destun addysg uwchradd ddwyieithog [Evaluation of teaching and learning methods in the context of bilingual secondary education].* Bangor, Wales: University of Wales.

Williams, J. N. (2005). Learning without awareness. *Studies in Second Language Acquisition, 27*(2), 269-304.

Appendix A: Sample rationales for different categories

(a) Meaning-oriented rationale

(1) For selecting "That's when Queen Eleanor of Aquitaine paid money to save William. She <u>may have heard</u> many of the stories of William's bravery. The queen called William to come to court…" instead of <u>may hear</u>:

> "Because the queen heard a lot about William first, and then, she invited William to come see her. That is why."

(2) For selecting "During this time, he <u>may have started</u> building his name as a legendary…" instead of <u>may start</u>:

> "Because he started making his name that time and it has been the constant facts since then."

(b) Grammar rule-oriented rationale

(1) For selecting "That's when Queen Eleanor of Aquitaine paid money to save William. She <u>may hear</u> many of the stories of William's bravery. The queen called William to come to court…" instead of <u>may have heard</u>:

> "Because the sentence before this is in present tense. I need to keep the same tense form here."(sic)

(2) For selecting "William's father replied saying that the king <u>may have gone ahead</u>. He can always have more and better sons" instead of <u>may go ahead</u>:

> "it is in compound sentence, relative clause, and we have past tense in front of it (replied)." (sic)

(c) Statements of implicit knowledge

> Just feels like it.
>
> Sounds right like this by putting words together.
>
> I don't know why but I just don't want 'have' here…
>
> Easier to read this way!

(d) Statements indicating the answer was provided as a result of collaboration

> Because I was influenced by my partner's opinion.
>
> Based on what we agreed upon (in dyads).
>
> We talked and this is what we came up together.
>
> Based on communication.