Theories of Learning: In Support of L2 Collaborative Writing

Richard Mark NIXON

1. Introduction

Research on collaborative writing has been informed by or the notion of comprehensible output for second language (L2) learning advocated by Swain (1997) and sociocultural oriented theories of learning as explicitly proposed by Vygotsky.

2. Comprehensible Output

Swain and Lapkin (1998) suggested that it is the combination of comprehensible input and comprehensible output during, and as a result of, interactions with others, that contributes to successful communication and L2 learning. Observations made by Swain (1985) of French immersion students' who continued to produce grammatical and syntactic forms that did not match those of native speakers, despite having received input-based language instruction over several years, led her to conclude that output, that is, in the forms of writing and speaking, also plays an important role in second language acquisition (SLA). In more detail, Swain (1997) described how output leads to L2 learning in at least four ways: by enhancing fluency; and by improving accuracy through three different functions: the *noticing/triggering* function, *hypothesis testing* function, and *metalinguistic* function.

Noticing occurs when learners become consciously aware of a gap between what they intended to say in the target language and what they could say, "leading them to recognize what they do not know, or know only partially" (Swain, 1997, p. 117). Swain (1997) argued that in the learners' attempts to fill in the missing

linguistic pieces, they trigger their own cognitive processes, allowing for the generation of new knowledge, or the consolidation of existing knowledge. Swain connected output to hypothesis testing when she noted that some input is taken up by learners while other input is not. "The fact that learners modify their speech in one-third but not all utterances suggests equally that they are only testing out some things and not others; that their output is indeed a test of a learner-generated hypothesis; that their output is the 'selector' for what will be attended to" (Swain, 1997, p. 118). The metalinguistic function of output is concerned with the *reflections* undertaken by learners when they consider their own hypothesis testing. Under certain task conditions learners will reveal not only their hypothesis testing but also their reflections on them through their own language production. The situation of peer collaboration while writing may prompt these socio-cognitive functions to occur and to be the objects of verbal spoken interactions as well as text production.

3. Sociocultural Theory of Mind

Lantolf (2000; 2006), in his explanation of Vygotsky's sociocultural theory of mind, made it clear that the elementary principle of sociocultural theory is that the human mind is *mediated*. The human mind is mediated by certain tools that regulate our relationships with ourselves and with others: "As with physical tools, humans use symbolic artifacts to establish an indirect, or *mediated*, relationship between ourselves and the world" (Lantolf, 2000, p. 1). The physical and symbolic artifacts (i.e., music, arithmetic systems, language) are historical tools in the sense that they are passed on from one generation to the next, and modified in the sense that they are reworked to meet the needs of successive generations of communities and individuals. In fact, the most pervasive and powerful symbolic artifact, language, undergoes constant modification by its users as they seek to satisfy their ongoing communicative and psychological needs. According to Lantolf (2000), Vygotsky

conceived of the human, biologically determined brain, as organized into a higher, culturally shaped mind, through the integration of symbolic artifacts into thought, and he reasoned that since symbolic artifacts are inherited from our ancestors, higher mental capacities such as "voluntary memory, voluntary attention, planning, monitoring, the formation of intentions, rational thought, and learning" (Aljaafreh & Lantolf, 1994, p. 467) must necessarily be historical as well.

In his research with children, Vygotsky (1978) showed how the integration of culturally symbolic artifacts to their thinking, primarily language, progressed developmentally as they matured. "[F]rom a stage in which any type of assistance was useless, to a stage in which external forms of mediation would improve task performance, to a final stage in which external mediation had been internalized" (Lantolf, 2000, p. 4). In sociocultural theory, these three stages are commonly referred to as object-, other-, and self-regulation (Guerrero & Villamil, 1994). To elaborate, initially the activities of young children are mediated, or regulated, by objects external to them. As such, they are unable to exert control over behavior that is voluntary because they are unable to access the mediational artifacts available to them in their environment. When children are older, however, they regulate their activities as they gain access to mediational artifacts, but only indirectly through the assistance of others in their environment. Eventually, as adults they *internalize* the means necessary to organize and self-regulate their activities independently from others. Although, as Lantolf (2000) noted about Wertsch's (1991) argument, there are instances in which adults will seek assistance, either in some other person or in particular cultural artifacts, because of tasks that they cannot manage with their existing internalized mediated support.

Lantolf (2006) defined internalization as "the process through which communities of practice appropriate the symbolic artifacts used in communicative activity and convert them into psychological artifacts that mediate their mental activity" (p. 90). According to the sociocultural theory of

mind, internalization constitutes the reconstruction of the inner psychological plane of culturally created artifacts. However, while internalization is the formation of consciousness derived from the social plane, the reconstruction of it does not identically occur within each individual. Lantolf (2000) stated that "[i]n some cultures, classification of objects is based primarily on the objects' functional role in everyday practical activity, while in others they are classified according to formal schema internalized in school" (p.14). Wertsch (1985) related that Vygotsky believed all higher mental functions went through an external stage, that the external and the social were synonymous in the internalization process, and that every psychological function in the internalization process occurred twice, once on the interpsychological plane with others, and then again on the intrapsychological plane within the mind of the individual. Wertsch (1985, p. 66) summarized Vygotsky's account of internalization according to four major points:

> (1) Internalization is not a process of copying external reality on a preexisting internal plane; rather, it is a process wherein an internal plane of consciousness is formed. (2) The external reality at issue is a social interactional one. (3) The specific mechanism is the mastery of external sign forms. And (4) the internal plane of consciousness takes on a 'quasi-social' nature because of its origins.

Vygotsky's own beliefs led him to consider the most influential culturally created symbolic artifact in the internalization process, namely speech. Speech is social in its origins and thus external to the individual in the same sense that other symbolic artifacts that mediate consciousness are external. However, sociocultural theory identifies speech as the most important symbolic artifact because it serves to provide a direct window into the learning process. Lantolf's (2000) account of

Wertsch's work with young children (two to seven years old) revealed that the process of internalization could be observed in speech changes. Results of Wertsch's work showed that when young children are involved in speaking activities for which they do not fully possess the language necessary to mediate their mental and/or physical processes, they may, from the verbal examples the parent provides, appropriate the language they lack. However, the child does not instantly internalize the appropriated language; rather, the language assumes an intermediary *shared psychological function.* In other words, during appropriating the parent's language, the child begins to produce activity specific language. At this point, their language may appear social in some respects, because it is produced in the presence of the parent, but in other respects, it is psychological because the child's language is now self-directed toward their own involvement in the activity. Lantolf argued that self-directed speech is *private speech* because it takes on a private or cognitive function. He added that under normal circumstances a child's private speech eventually becomes subvocal, evolving into *inner speech*, language that 'condenses into pure meaning'. "According to Vygotsky, it is the process of privatizing speech that higher forms of consciousness arise on the inner plane and in this way our biological capacities are organized into culturally mediated minds" (Lantolf, 2000, p. 15).

Vygotsky introduced the concept of the *zone of proximal development* (ZPD) as an interpretive tool for understanding the relationship between the cognitive and social aspects of learning and defined it as "the distance between the learner's actual development level as determined by independent problem-solving and the level of potential development as determined by problem-solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). The ZPD is a metaphor used to describe the site at which the interpsychological and intrapsychological planes intersect. Storch (2001) described that the "more able member or 'expert' assists the novice to internalize the learning and thus reach a

higher level of development" (p. 30). Thus, mediation is the key ingredient when discussing the workings of the ZPD. Lantolf (2000) referred to the ZPD as "the collaborative construction of opportunities" (p .17).

According to Guerrero & Villamil (1994), the internalization process characteristic of the ZPD involves a novice learner moving along a continuum, a transitory process of control, or *regulation.* Initially, the novice may begin writing in a situation of *object regulation* in which she/he is controlled by the text. From this level, the novice may move into a transitory stage of *other regulation,* whereby a more knowledgeable skilled *expert* effectively assists the novice to reach her/his immediate learning potential. This assistance in turn can conceivably enable the novice to eventually reach a level of learning referred to as *self-regulation*: "that is the capacity for independent problem solving" (Guerrero & Villamil, 1994, p. 484). Brown and Paliscar (1989) suggested that it is possible to gradually remove the supportive aspect of collaborative learning "from the social plane as [its impact on learning] are individualized, internalized, or adopted as independent cognition" (p. 408).

Aljaafreh and Lantolf (1994) provided a more precise description of the mechanisms that constitute effective intervention within the ZPD. They argued that the assistance a more experienced member should be *graduated* to determine the level of the novice's ZPD for detecting the minimal assistance the novice needs in order to complete a task and function at her or his potential level of ability. Help at this initial juncture ideally begins at a "highly strategic, or implicit, level and progressively becomes more specific, more concrete" (p.468) until an appropriate point is reached as determined by the responses of the novice. Aljaafreh and Lantolf cautioned that the assistance should be *contingent,* offered only when it is needed, and withdrawn once the novice shows indications of being able to function independently. The expert and novice learner conduct a continuous process of assessment of the novice's needs through graduation and contingency to not only

discover the ZPD of the novice but to also *tailor* the nature of the help the novice receives. These mechanisms would not be possible, argued Aljaafreh and Lantolf, without the existence of *dialogic* activity, meaning that access to the novice's ZPD is impossible without collaborative interaction between the more capable and the less capable individual.

The process of tailoring the help the expert gives to the novice is similar to the notion that the assistance provided by an expert should be fine-tuned, and *scaffolded* to the needs of the novice (Wertsch & Hickmann, 1987). The term *scaffolding* refers to the appropriate assistance provided by an *expert*, that which supports but also "stretches the novice beyond their current level towards their potential level of development" (Storch, 2005, p. 154). However, there is also the suggestion that scaffolding may occur in situations that are not only unidirectional Donato (1994), and it has been argued that when learners collaborate they may oscillate between being novices and experts (Brooks & Swain 2001; Kowal & Swain 1994).

4. Theories of Cross-Cultural Differences

A second theoretical issue highlighted in many previous studies of collaborative writing, particularly in L2 contexts, concerns differences in cultural orientations among students from diverse societies internationally. Researchers raising this issue have appealed to theories of contrastive rhetoric and/or the relative values of collective or individual orientations to group behavior.

4.1. Contrastive Rhetoric

Kaplan (1966, 1988) proposed that studying the differences between ESL learners' first language (LI) rhetoric and English rhetoric would provide insights for ESL teachers to solve writing problems facing ESL learners because contrastive rhetoric "shed[s] light on what learners bring with them from their own cultures and how what they bring

interacts with what they encounter when they undertake to compose in English" (Kaplan, 1988, p.291).

A study in this vein relevant to the present argument in support of collaborative writing is by Indrasuta (1988) who looked at the narrative structures of texts produced by one group of 30 native English speaking students and one group of 30 native Thai speaking students (the Thai speaking students wrote once in English and once in Thai). Indrasuta found that the native Thai speaking students, regardless of whether they were writing in English or Thai, demonstrated a greater use of the first-person singular, produced fewer action oriented situations in their narratives, and focused more on the mental states of their story's characters than did the native English-speaking students. Indrasuta explained, "most of the differences in the two cultures appear to result from language use rather than language system" (p.214) … [and] "the factors that influence the differences seem to be cultural factors rather than linguistic factors" (p.221). Indrasuta suggested that the two groups might have viewed the functions of narratives differently. On one hand, American students perceive the functions of narratives to be entertainment and to inform the reader. This leads American students to try and capture the interest of their readers by using certain lexical and narrative components that fulfill these functions. On the other hand, the functions of narratives for Thai students is driven by the need to fulfill the expectations of their teachers; and as a result, they "choose appropriate content, follow the conventional rhetorical structure, and apply the appropriate choice of lexical items" (p. 222).

4.2. Individualism versus Collectivism

A group that a person belongs to is considered one's *ingroup* and defined as "groups of people with whom we are taught to associate with" (Carson & Nelson, 1994, p. 24). In contrast to this is the notion of an *outgroup*, which "consist[s] of those who do not belong to one's ingroup and often those we are taught to avoid"

(Carson & Nelson, 1994, p.24). Triandis (1988) characterized an outgroup as "people with whom one is in competition or whom one does not trust" (p. 57).

The importance people give to ingroup membership and the attitudes they have towards those in outgroups reportedly varies according to whether they were socialized in an *individualist* or a *collectivist* culture (Carson & Nelson, 1994; Hofstede, 1986; Triandis, 1988). Carson and Nelson (1994) characterized individualist cultures as ones in which people are expected to care primarily for themselves and their immediate families, as well as pursue individual ambitions. Conversely, in collectivist cultures people value ingroup involvement to the extent that it is a primary component that defines their identities. For example, Carson and Nelson (1994) suggested that Chinese and Japanese people who have been socialized in their respective collectivist cultures have a strong commitment to ingroup membership such that they tend to: belong to fewer groups than do individualists; belong to the same group, perhaps for a lifetime; and seek to maintain relationships that constitute the ingroup by treating cohesion and harmony among its members as the primary functions of the group.

Several researchers have noted that differences in perceptions of ingroup function may have profound implications for the social dynamics of L2 writing groups (Allaei & Connor, 1990; Carson & Nelson, 1994; Hofstede, 1986; Nelson & Carson, 1998; Nelson & Murphy, 1992; Weiner, 1986; Yang, 2006). For example, Nelson and Carson (1998) found that Chinese and Spanish speakers had different notions about the kind and amount of talk that should be used to identify writing problems during peer-response sessions, observing that the Chinese students "were reluctant to identify problems, recognizing it seems, that making negative comments on a peer's draft leads to division, not cohesion, in a group" (p. 128). Carson and Nelson (1994) noted that when Japanese and Chinese students perceive their L2 writing groups as ingroups they are left frustrated and confused about how they should function in a western context in which the educational setting and the

L2 group functions are geared toward the individual achievement of writers and not toward group success. In a related issue, students from collectivist cultures often perceive the teacher as the *knower*, the one to look towards for direction, and as a result they may find it difficult to accept their peers' responses to their writing (Hofstede, 1986). For example, Yang (2006) suggested that the cultural background of ESL Asian students enrolled in Commerce programs at two universities might have restrained the collaborative group activity of one of the three groups in her study. "[T]heir cultural background made some of them expect an instructor-dominant communication style in the class. Their cultural background also made some of them reluctant to propose individual opinions forcefully in preparing the first group assignment, before the group members became familiar with each other" (Yang, 2006, p. 217). Weiner (1986) explained that ESL collaborative writing groups in individualist western cultures may on the exterior appear familiar to collectivists, but in reality they do not typically function according to social constructivist theory, that is, "on a single project that has been negotiated and enacted by and for the group" (p. 55).

Taking a contrary position to the collectivist-individualist distinction, Littlewood (2001) argued that many of the common perceptions about Asian students and their learning attitudes, such as the belief that they see the teacher as an authority figure, and their preference to work in groups towards common goals, need to be re-examined considering his recent cross-cultural survey research. Littlewood studied the classroom English learning attitudes of 2656 East Asian and European secondary and tertiary level students toward working in groups, and authority in the classroom. A result relevant to the present thesis research was the responses of the Thai students to group work. Of the eight East Asian and three European countries involved in the survey, the Thai students placed third highest in terms of their level of agreement to the statement: "I like activities where I am part of a group in which we are all working towards common goals" (Littlewood, 2001,

p. 15). Overall, East Asian students reported higher scores going in the direction predicted by collectivism, and the difference between East Asia and Europe was statistically significant. However, Littlewood (2001) found that most students in all of the countries felt positive about working in groups towards common goals. In addition, he found that most students in all the countries felt that they could question the traditional authority structure. The researcher suggested that differences in the mean scores of the individual countries, and between the East Asian and European countries as two separate blocks, were not as great as the literature on individualism and collectivism might lead us to expect: "They do not support the broad generalizations that are often made about differences between Asian and European students" (p. 15). Littlewood cautioned that although students in all the countries he surveyed had similar *deep structure* preferences for group work and authority structure, there may be critical differences in how students in different cultural contexts conceive these common goals, in other words, how they realize them on the *surface* level.

5. Conclusion

This review summarized the theoretical positions germane to the pedagogical and linguistic value for implementing collaborative writing arrangements in the L2 classroom. Teachers who do design and utilize collaborative writing activities would benefit from considering the theoretical basis that they personally subscribe to in order to guide their pedagogical decisions and to act as a basis for professional reflection.

References

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

Allaei, S.K., & Connor, U.M. (1990). Exploring the dynamics of cross-cultural collaboration in writing classrooms. *The Writing Instructor*, 10, 19-28.

Brooks, L., & Swain, M. (2001). Collaborative writing and sources of feedback: How they support second language learning. OISE/UT Manuscript.

Brown, A.L., & Paliscar, A.S. (1989). Guided cooperative learning and individual knowledge acquisition. In L.B. Resnick (Ed.), *Knowing, learning, and instruction: Essays in honor of Robert Glaser* (pp. 383-451). Hillsdale, NJ: Lawrence Erlbaum.

Carson, J.G., & Nelson, G.L. (1994). Writing groups: Cross-cultural issues. *Journal of Second Language Writing*, 3, 17-30.

Donato, R. (1994). Collective scaffolding in second language learning. In J. P. Lantolf & G. Appel (Eds.), *Vygotskian approaches to second language research* (pp.33-56). Norwood, NJ: Ablex.

Guerrero, M.C.M. de, & Villamil, O.S. (1994). Social-cognitive dimensions of interaction in L2 peer revision. *The Modern Language Journal*, 78, 484-496.

Hofstede, G. (1986). Cultural influence in teaching and learning. *International Journal of Intercultural Relations*, 10, 301-320.

Indrasuta, C. (1988). Narrative styles in the writing of Thai and American students. In A. Purves (Ed.), *Writing across languages and cultures: Issues in contrastive rhetoric* (pp. 206-226) Newbury Park, CA: Sage.

Kaplan, R. (1966). Cultural thought patterns in intercultural education. *Language Learning*, 16, 1-20.

Kaplan, R. (1988). Contrastive rhetoric and second language learning: Notes toward a theory of contrastive rhetoric. In A. Purves (Ed.), *Writing across languages and cultures: Issues in contrastive rhetoric.* (pp. 275-304). Newbury Park, CA: Sage

Kowal, M., & Swain, M. (1994). Using collaborative language production tasks to promote students' language awareness. *Language Awareness,* 3 73-93.

Lantolf, J.P. (2000). Second language learning as a mediated process. *Language Teaching*, 33, 79-96.

Lantolf, J.P. (2006). Sociocultural theory and L2: State of the art. *Studies in Second Language Acquisition*. 28, 67-109.

Littlewood, W. (2001). Students' attitudes to classroom English learning: A cross-cultural study. *Language Teaching Research*, 5, 3-28.

Nelson, G.L., & Carson, J.G. (1998). ESL students' perceptions of effectiveness in peer response groups. *Journal of Second Language Writing*, 7, 113-131.

Nelson, G.L., & Murphy, J. (1992). An L2 writing group: Task and social dimensions. *Journal of Second Language Writing*, 1, 171-193.

Storch, N. (2001). How collaborative is pair work? ESL tertiary students composing in pairs. *Language Teaching Research,* 5, 29-53.

Storch, N. (2005). Collaborative writing: Product, process and students' reflections. *Journal of Second Language Writing*, 14, 153-173.

Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. M. Gass, & C. G. Madden (Eds.), *Input in second language acquisition*. (pp. 235-253). Rowley, MA: Newbury House.

Swain, M. (1997). Collaborative dialogue: Its contribution to second language learning. *Revista Canaria de Estudios Ingleses,* 34, 115-132.

Swain, M., & Lapkin, S. (1998). Interaction and second language learning: Two adolescent French immersion students working together. *The Modern Language Journal,* 83, 320-338.

Triandis, H.C. (1988). Collectivism vs. individualism: A reconceptualization of a basic concept in cross-cultural social psychology. In G.K. Verma & C. Bagley (Eds.), *Personality, cognition, and values: Cross-cultural perspectives on childhood and adolescence* (pp. 60-95). London: Macmillan.

Vygotsky, L.S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.

Weiner, H.S. (1986). Collaborative learning in the classroom: A guide to evaluation. *College English*, 48, 52-61.

Wertsch, J.V. (1985). *Vygotsky and the social formation of mind*. Cambridge: Harvard University Press.

Wertsch, J.V. (1991). *Voices of the mind: A sociocultural approach to mediated action*. Cambridge: Harvard University Press.

Wertsch, J.V., & Hickmann, M. (1987). Problem solving in social interaction: A microgenetic analysis. In M. Hickmann (Ed.), *Social and functional approaches to language to language and thought* (pp. 251-266). Orlando, FL: Academic Press.

Yang, L. (2006). Writing group project assignments in commerce courses: Case studies of Chinese background ESL students at two Canadian universities. Ph. D. diss., OISE/UT.