Philosophical Foundation of SLA: The Emergence of Output Hypothesis, Past, Present and Future

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ABSTRACT
The aims of this presentation are two folds, in initial stage, the presenter would like to shed light on the philosophy of second language learning, and how different philosophers have tried to explain the aim or purpose of second language acquisition, the second part includes the emergence of output hypothesis, and the reasons why this hypothesis emerged, and finally how this hypothesis has been modified during these two decades.

Introduction
Philosophical foundation of SLA can be seen from two broad perspectives: one is to approach the topic form Clark’s (1987) stance on the philosophical foundation of SLA; another one is to consider Johnson’s stance on the topic (2004). Clark (1987) adopts a conceptual frame of reference first put forward by Skilbeck (1982 as cited in Clark, 1987) and identifies three broad value systems of classical humanism, reconstructionism, and progressivism. Following Johnson’s classification, the whole topic of philosophical foundation of SLA is divided to three major scientific traditions of behaviourist, cognitive-computational, dialogical which in turn has three categories: discursive (Harre and Gillett 1994) or dialogically based social-cognitive (Rommetveit 1987) and cultural (Bruner 1983). In paragraphs to come these two perspectives are discussed in detail with first attending to Clark frame of reference and then to Johnson’s account.

Classical Humanism
Classical humanism as one of the philosophical foundations of education is knowledge-oriented. This conceptual framework is concerned with advancement of intellectual and cultural values. That is to say it is based on a tendency to broaden intellectual capacities. As such it works on memorisation and the ability to analyse, classify, and reconstruct elements of knowledge (Clark, 1987). Based on this view, knowledge is a set of truths with underlying rules and regularities which are to be studied and consciously mastered. The role of teacher is an important role as s/he has to pass on knowledge to learners. The learner’s role, on the hand, is to acquire knowledge and being fully aware of the rules, regularities, and irregularities so as to be able to use that knowledge in other circumstances. In other words, the main focus of classical humanism is on conscious understanding, on reflection, on the application of knowledge in a controlled fashion. Culture receives paramount attention in classical humanism and cultural values are to be passed to learners through teaching material. Classical humanism has given rise to an approach in language learning in which learners are motivated to master rules underlying sentence structures, to memorize grammatical systems and subsystems, to analyse sentences into their constituent elements, to categorise the knowledge they receive.

In brief, classical humanism can be characterised as in what follows:
1. Knowledge and culture of previous generation need to be maintained and transmitted from one generation to another.
2. Intellectual capacity and critical faculties are to be developed.
3. Conscious awareness of rules and patterns and subsequent application of them are emphasized.

Progressivism
The Progressive education philosophy is concerned with the development of individuals. John Dewey was its foremost proponent. One of the tenets of progressivism is that the school should improve the way of life of people through experiencing freedom and democracy in schools. Shared decision making, planning of teachers with students, student-selected topics are all aspects. Books are tools, rather than authority. Progressivists believe that education should focus on the whole learner, rather than on the content or the teacher. This philosophy stresses that students should test ideas by active experimentation. Learning is rooted in the questions of learners that arise through experiencing the world. It is active, not passive. The learner is a problem solver and thinker who make meaning through his or her individual experience in the physical and cultural context. Effective teachers provide experiences so that students can learn by doing. Curriculum content is derived from student interests and questions. The scientific method is used by progressivist educators so that students can study matter and events systematically and first hand. The emphasis is on process-how one comes to know. In brief we can characterize progressivism as:
1. Education should be life itself, not a preparation for living.
2. Learning should be directly related to the interests of the child.
3. Learning through problem solving should take precedence over the inculcating of subject matter.
4. The teacher’s role is not to direct but to advice.
5. The school should encourage cooperation rather than competition.

Reconstructionism
Reconstructionism is an optimistic ideology which believes that man can change his environment for best. In other words, it is a society-oriented philosophy that centres on the idea of constant change. In a Reconstructionist point of view, the
world is a ceaselessly evolving whole and its inhabitants need to
ceaselessly evolve themselves in order to cope with the
situations around them. The philosophy maintains that social,
economic, intellectual, and spiritual advance can improve
through rational plans. It emphasizes the addressing of social
questions and a quest to create a better society and worldwide
democracy. Reconstructionist educators focus on a curricul um
that highlights social reform as the aim of education.

In this view, humans must learn to resist oppression and not
become its victims, nor oppress others. To do so requires dialog
and critical consciousness, the development of awareness to
overcome domination and oppression. Rather than "teaching as
banking," in which the educator deposits information into
students’ heads, teaching and learning are seen as a process of
inquiry in which the learner must invent and reinvent the world.
With regards to its applications in education, Reconstructionist
thinkers have been some of the greatest contributors to learning.
Concepts such as multiple intelligences or alternative learning
procedures have come from Reconstructionist motivation built
on other philosophies.

In summary, Reconstructionism can be summarised as in what
follows:
1. Education must commit itself here and now to the creation of
a new social order that will fulfill the basic values of our culture
and at the same time harmonize with the underlying social and
economic forces of the modern world.
2. The new society must be a genuine democracy, whose major
institutions and resources are controlled by the people
themselves.
3. The child, the school, and education itself are conditioned
inexorably by social and cultural forces.
4. The teacher must convince his pupils of the validity and
urgency of the deconstructionist solution, but he must do so with
careful regard for democratic procedures.
5. The means and ends of education must be completely re-
fashioned to meet the demands of the present cultural crisis and
to accord with the findings of the behavioural sciences.

Let us now consider the foundation of SLA from another
perspective. Jordan and Lalleman (1996 as cited in Johnson,
2004) stated the foundation of SLA can be studied from four
disciplines, each of which offers a different perspective.

a. Process as central. SLA can be studied from a
psycholinguistic perspective, providing insight into the workings
of the human mind.

The goal is to contribute to the development of a theory of
language acquisition.

b. Language theory as central. SLA can be studied from a
theoretical perspective. The acquisition of different languages
provides insight into the nature of language.

The goal is to find evidence that supports a particular linguistic
theory.

c. Society as central. SLA can be studied from a sociolinguistic
perspective. Sociological factors influencing the language
acquisition process are studied.

An important goal is to help L2 learners to integrate in the L2
society.

d. Instruction as central. SLA can be studied from an
educational perspective with the aim of developing appropriate
educational tools.

As it was stated earlier, Johnson (2004) views philosophy of
second language acquisition as related to the three traditions of
behaviourist, cognitive-computational, dialogical each of which
explained in what follows.

In the 80s, the word “output” was used to indicate the
outcome, or product, of the Language acquisition device. Output
was synonymous with “what the learner/system has learned”.

What is The Output Hypothesis?

The output hypothesis claims that the act of producing
language (speaking or writing) constitutes, under certain
circumstances, part of the process of second language learning.

Three functions of output in second language learning:
1) the noticing/triggering function
2) the hypothesis-testing function
3) the metalinguistic (reflective) function.

What was the context in which the output hypothesis was
formulated?

Two aspects of the context that are important to mention.

1. The dominant theoretical paradigm for second language
acquisition (SLA) research at that time (1980s): information-
processing theory.
2. The widespread growth of French immersion programs in
Canada, the evaluations of which were showing some rather
unexpected findings.

Information-processing theory

In the early 1980’s, the burgeoning field of SLA was
dominated by the concept of input. “Second-language
acquisition theory provides a very clear explanation as to why
immersion works. According to current theory, we acquire
language in only one way: when we understand messages in that
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French immersion programs in Canada

The French proficiency of the immersion students was more
advanced than that of students taking 20 to 30 minutes a day of
FSL. On some tests of French listening and reading
comprehension, French immersion students obtained scores
similar to those obtained by francophone students of the same
age. to the surprise of some, the speaking and writing abilities of
French immersion students were, in many ways, different from
those of their French peers. These latter findings raised doubts
for me about the validity of the input hypothesis (Swain 1985),
most particularly about the argument that comprehensible input
was “the only true cause of second-language acquisition”
(Krashen 1984: 61). Alternative explanations were sought.-One
explanation, based on both informal and formal observations in
immersion classrooms, Was the output hypothesis (Swain 1985).
Observations revealed that the immersion students did not talk
as much in the French portion of the day (in French) as they did
in the English portion of the day (in English) (Swain 1988).More
importantly, the teachers did not "push" the students to talk in
French in a manner that was grammatically accurate or sociolinguistically appropriate. The meaning of ‘negotiating meaning’ needs to be extended beyond the usual sense of simply ‘getting one’s message across.’ Simply getting one’s message across can and does occur with grammatically deviant forms and sociolinguistically inappropriate language. Negotiating meaning needs to incorporate the notion of being pushed toward the delivery of a message that is not only conveyed, but that is conveyed precisely, coherently, and appropriately. Being ‘pushed’ in output...is a concept parallel to that of the i+1 of comprehensible input. Indeed, one might call this the ‘comprehensible output’ hypothesis.”(Swain, 1985, 248-9, as cited in Cook & Seidlhofer, 1995).

It has been argued that output is nothing more than a sign of second language acquisition which has already taken place, and that serves no useful role in SLA Exept possible as one source of (self) input to the learner(Krashen, 1989, as cited in Cook & Sidhofer, 1995). However, the output hypothesis claims that producing language serves second language in several ways. One function of producing the target language, in the sense of ‘practising’, is that it enhances fluency. We know that fluency and accuracy are two different dimensions of language performance, and though practice may enhance fluency, it does not necessarily improves accuracy(Ellis, 1988, Schimidt, 1992, as cited in Cook & Sidhofer, 1995). First of all output promotes ‘noticing’. That is to say, in producing target language (vocally or subvocaly) learners may notice a gap between what they want to say and what they can say, leading them to recognize what they do not know, or know only partially. In other words, under some situations, the act of producing the target language may prompt second language learners to consciously recognize some of their linguistic problems; it may bring their attention something they need to discover about their L2(Swain, 1993, cited in Cook & Sidhofer, 1995). This may trigger cognitive processes which might generate linguistic knowledge that is new for learners, or which consolidate their existing knowledge.(Swain & Lapkin, 1994). A second way in which producing language may serve the language learning process is through hypothesis testing. In other words, producing output is one way of testing a hypothesis about comprehensibility or linguistic well-formedness. Sometimes this output invokes feedback which can lead learners to modify or reprocess their output.

Thirdly, as learners reflect upon their target language use, their output serves as a meta-linguistic function of output, enabling them to control and internalize their linguistic knowledge.

**Difference between comprehension and production**

The importance of output for learning could be that it pushes the learner to process language more deeply than does input. With output, the learner is in control. By focusing on output we may be focusing on ways in which learners can play more active, responsible roles in their learning. In speaking or writing, learners can extend their interlanguage to meet communicative goals. They might work toward solving their linguistic limitation by using their own internalized knowledge or by cueing themselves to listen for a solution in future input. To state this more clearly, the process involved in language production can be quite different than those involved in comprehending language. Clark & Clark, 1977, (as cited in Cook & Seidlhofer, 1995) list a set of strategies native speakers use in comprehending. The strategies represent a set of heuristic that can be used to help listeners to make sense of what they hear, and fall into general approaches: syntactic and semantic.

Listeners usually know a lot about what a speaker is going to say. They can make shrewd guesses. From what they have been said and from the situation being described. They can also be confident that the speaker make sense, be relevant, provide given and new information appropriatet, and in general be cooperative. Listeners almost certainly use this sort of information to select among alternatives parses of a sentence, to anticipate words and phrases, and sometimes even to circumvent syntactic analyses altogether.(Clark & Clark, 1977, as cited in Cook & Seidlhofer, 1995, p.127).

**Three Functions of Output**

Three functions of output in second language learning:
1) the noticing/triggering function
2) the hypothesis-testing function
3) the metalinguistic (reflective) function, or what might be referred to as its ‘reflective’ role.

There is now a general consensus that noticing is a prerequisite for learning to take place (e.g. Ellis, 1995; Robinson, 1995; Schmidt, 1990; Skehan, 1998). One important aspect of noticing research has concerned the role of output in prompting noticing. Swain (1995, 1998, 2005) has proposed four functions of output, one of which is the noticing/triggering function. It is claimed that, through output activities such as speaking and writing, L2 learners become aware that they cannot say what they want to say in the target language. However, how such spontaneous attention to form affects the subsequent learning process has not been adequately researched.

Swain and Lapkin (1995) reported that their students consciously recognized linguistic problems through the act of writing and modified their output. However, Lapkin et al. (2002) argue that more L2 noticing studies are needed to provide direct empirical evidence that noticing leads to learning. Shehadeh (2002 as cited in Hanoaka, 2007) also points out that while past research has focused on the occurrence of modified output, more research is needed to investigate how producing output can lead to acquisition. While some studies (e.g. Izumi, 2002; Morgan-Short and Bowden, 2006) have addressed this issue and shown the positive effects of output, relatively few studies have been conducted in the context of L2 writing. In L2 writing contexts involving spontaneous focus on form, Qi and Lapkin (2001) conducted a case study in which two ESL learners at different levels of proficiency engaged in a three-stage writing task. The results indicated that noticing in the composing stage influenced noticing in the feedback processing stage, and that quality of noticing was an important factor in the improvement of the final written product. Moreover, the study suggested that quality of noticing may be related to the proficiency level of the learner. In this and other studies (e.g. Adams, 2003; Lapkinet al., 2002; Swain and Lapkin, 2002), a feedback technique known as reformulation was used and shown to be an effective feedback tool enabling learners to make cognitive comparisons and notice gaps between their own output and their reformulated versions.

Qi and Lapkin suggested that ‘the positive modeling of native-like writing may be more helpful to the learner than error correction’ (p. 286). However, few studies have explored in this context the role of native speaker modeling which is not contingent on learner output. Building on the work of Qi and Lapkin, the present study investigated two broad issues: the role of spontaneous focus on form in L2 writing, and the potentially unique role of native speaker models as a feedback tool.

One role of output in second language learning is that it may promote ‘noticing’. This is important if there is a basis to claim that noticing a language form must occur for it to be
acquired (Ellis, 1994). There are several levels of noticing in the target language because it is salient and frequent. Or, as proposed by Schmidt and Frota (1986, as cited in Lantolf, 2000), in their ‘notice the gap principle’, learners may not only notice the interlanguage, learners may notice that they do not know how to express precisely the meaning they wish to convey at the very moment of attempting to produce it—they notice to speak, a ‘hole in their interlanguage. Swain & Lapkin, 1995, observed that those learners noticed ‘holes’ in their linguistic knowledge and they worked to fill them by running to dictionary or grammar book, by asking their peers or teacher; or by noting to themselves to pay attention to future relevant input. In line with, Van lier, one might hypothesize that learners seek solutions to their linguistic difficulties when the social activity they are engaged in offers them an incentive to do so, and the means to do so.

Another way in which producing language may serve the language learning process is through hypothesis. It has been argued that some errors which appear in learners written and spoken producing reveal hypotheses appear in learners written and spoken production reveal hypothesis; learners need to do something and one way of doing this is to say or write something.

Hypothesis Testing

The second function of output that I want to discuss is its hypothesis testing role. It has been argued that some errors which appear in learners written and spoken production reveal hypotheses held by them about how target language works. To test hypothesis learners need to do something, and one way of doing this is to say or write something. If learners were not testing hypotheses, then changes in their output not be expected following feedback. Iwashita, 1993, cited in Cook and Seidlehofer, 1995, during the process of negotiating meaning, learners will modify their output in response to such conversational moves as clarification request or confirmation checks. If output as hypothesis testing were just a matter of gaining more input, we might expect change after each instances of feedback. Learners modify their speech in one-third (but not in all) of their utterances suggest equally that they are only testing out some things and not others; however, that their output is the selector for what will be attended to. They might further argued that this process of modification represents second language acquisition. However, our understanding of what learners produced is immensely enriched by our being privy to their dialogue as they constructed the phrase.

Recent Developments

More recent research has largely provided support for the basic idea of the output hypothesis. This research, conducted over the last ten years, has led researchers to develop and refine their conception of the output hypothesis. Research developments suggest that collaborative tasks (such as Information Gap activities) may be perhaps one of the best ways to get students to produce comprehensible output. As has been A Review of the Role of Output in Second Language Acquisition with anecdotal examples from a Japanese learner’s experience noted (Swain, 1995) a reason these types of tasks and other kinds of pair and group work activities may be useful is because, whereas individually learners may be novices, working together they have access to their partner’s knowledge and can essentially “rise above” their individual level of competence and become, temporarily and with the help of their partners, more proficient “experts.” By doing this, learners working in a pair can produce comprehensible output beyond their competence level and learn something new (or at the very least, consolidate existing knowledge). It is generally agreed that, in terms of the output hypothesis, the above-mentioned three possible roles can still be attributed to comprehensible output although they have been modified slightly from earlier conceptions. Currently, the roles comprehensible output may play are seen to be the following: 1) Comprehensible output can lead a learner to “notice” the gap between what they want to say and what they actually can say. Echoing the original form of the theory (and extending it just a little), 2) comprehensible output often involves hypothesis forming and testing. Finally, 3) comprehensible output can have a meta-linguistic function. This means it can lead to “meta-talk,” or talking about language. It seems likely that task-based collaborative activities may be most successful at acting on this third meta-linguistic role of the three proposed roles of comprehensible output by eliciting “meta-talk.” I frequently use task-based collaborative activities in my classroom here in Japan with lower-level students and I do notice “meta-talk” taking place often. Even so, it may be that “meta-talk” is most desirable or relevant in the context of high-level but less than accurate learners where students have good fluency in the target language but could benefit from being induced to discuss language in order to move forward and achieve greater accuracy. Interestingly, while verbally produced output is probably the most frequent manifestation of comprehensible output it has been noted that output need not necessarily be verbalized. Swain has suggested that learners may be “noticing” gaps in their knowledge and “producing” language in their heads and furthermore that studies have shown that students learn through this “internal verbalization.”

Theoretical Support

Support for the comprehensible output hypothesis comes from the work of socio-cultural theorists who maintain that social interaction is a critical factor in human psychological development. Socio-cultural theory claims that our higher psychological processes are based on interactions with others. This implies that we are more fully utilizing our cognitive resources when we are engaged in verbal interaction with each other. From this perspective the use of language is more than communication, it is something that triggers deep mental processes. It means that not only communication but also significant cognitive activity is taking place. Socio-cultural theorists emphasize the importance of social interaction in psychological development. Language development, when seen as a part of psychological development is what makes socio-cultural theory relevant to the comprehensible output hypothesis. The comprehensible output hypothesis neatly dovetails with socio-cultural theory as it claims that negotiation of meaning and interactional exchanges that take place using comprehensible output lead to language development and in fact are examples of language development. Just as socio-cultural theorists have shown that social interaction leads to psychological development, comprehensible output researchers, led by Swain, have produced evidence showing that comprehensible output leads to language development. For example, it has been shown that while addressing communication problems learners engage in mental A Review of the Role of Output in Second Language Acquisition with anecdotal examples from a Japanese learner’s experience processes that have been shown to aid language acquisition. Swain contends that when learners are engaged in meta-talk or otherwise talking about language form they are actually engaged in language learning. Whereas Krashen claims that comprehensible input, in and of itself, leads to language learning Swain suggests that when learners are engaged in negotiation of meaning and talking about language (namely
In spite of the difficulties in using consciously learned knowledge, how can we ‘push’ learners to focus on form? The output hypothesis forces learners to consciously recognize linguistic problems in order to acquire sentence structures. This indicates that subjects appealing to conscious knowledge more while producing output will acquire more language and will display high levels of language competence. But in fact, the ‘readers’ who appealed to conscious rules less easily outperformed ‘non-readers’ who engaged more with consciously learned knowledge on a test of grammar and on a reading and writing test (Ponniah 2008). This confirms that appealing to conscious knowledge while producing output does not affect acquisition, comprehensible input that facilitates acquisition. Therefore, learners should not be ‘pushed’ to use conscious knowledge. It will certainly discourage them from learning a second language.

**Conscious reflection**

Function of output is to test hypotheses; it is assumed that the output itself is the hypothesis. That is, the output represents the learners’ best guesses as to how something should be said or written. We rarely ask learners what they hypotheses are, but rather infer them from the output itself. However, under certain task conditions, learners will not only reveal their hypotheses, but reflect on them, using language to do so. It is this level output that represent that its metalinguistic function of using language to reflect on language allowing learners to control and internalize it. In order to investigate what learners make explicit and how this contributes to language development, we need task which encourage reflection on language form while still being oriented the getting meaning across. In most of research tasks used in the study of interaction, this reflective process is not demanded. The output brought about through the collaborative dialogue allow learners necessary support to outperform their competence and in the process develop their interlanguage. Two studies are suggestive of value of this sort of negotiation about form second language learning. One is a study by Donnato (1994, as cited in Cook &Seidlhofer, 1995) on collective scaffolding. The second is the study that by Lapierrre (1994, as cited in Cook &seidlhofer, 1995) on the role of output, and of conscious reflection on output, in second language learning. In both studies students produced language and talked about the language they produced. According to Donnato studies, he analyzed selected protocols of three students who worked together in class for ten weeks. The students involved in the study were third semester students of French in an American university. It was intended that during the planning session, the students should decide on what happens between a husband and his wife when the wife divorce or husband. The students have been told that they could not use notes in their presentation, nor to memorize their scenario, but they could make notes while preparing if they wished.

**Collaborative Dialogue and SLA**

Wells, 2000 as cited in Lant of, 2000, points out that one the characteristics of utterance, whether spoken or written is that it can be looked at as simultaneously process and product as saying and as what is said. In saying speaker is cognitively engaged in making meaning; cognitive act is taking place. Saying, however, produces an utterance that can now be responded to by others or by the self. The two faces of an utterance the cognitive activity and the product of it are present in both output and collaborative dialogue Collaborative dialogue is a dialogue in which speakers are engaged in problem solving and knowledge building. Through examples, is that collaborative
dialogue mediates joint problem solving and knowledge building.

**The Metalinguistics( Reflective) function of output**

The claim here is that using language to reflect on language produced by others or the self mediates in second language learning. This idea originates with Vygotsky’s sociocultural theory of mind which is about people operating with mediating tools–(wertsch,1980, as cited in Hinkel, 2005,p.478). Speaking is one such tool. Swain, 2002, as cited in Hinkel,2005) tentatively relabeled “output” as speaking, writing, collaborative dialogue, and /or verbalization in order to escape the inhibiting effect of ‘conduit metaphor’ implied in the use of terms such as input and output. Speaking is initially an exterior source of physical and mental regulation for an individual- an individual’s physical and cognitive behavior is initially regulated by others. Overtime, however, the individual internalize these regulatory actions-actions such as reasoning and attending. Internalization is an “in growing” (Frawley, 1997, as cited in Hinkel, 2005) of collective to individual behavior, and this growing inwards is mediated by speaking(and other semiotics tools). As Stesenko & arivith, 1997, cited in Hinkel, 2005, P.478) State it: “ Psychological processes emerge first in collective behavior, in cooperation with other people, and only subsequently become internalized as the individuals own possessions”. This means that the dialogue learners engage in takes on new significance. In it, we can observe learners operating on linguistic data, operations that move inward to become part of participants’ own mental activity. These claims provide a basis for having students work together- eventually students are expected to engage in solo mental functioning, and that solo mental functioning has its source in joint activities. In those joint activities language is used, initially to externally and collaboratively mediate problem solution. Swain and Lapkin, 1995,have called this joint problem solving dialogue, which is “take in” so to speak –recreated on the intramental plane- by the learner and serves later to mediate problem solution by him or herself. What is Collaborative Dialogue?

Collaborative dialogue is thus dialogue in which speakers are engaged in problem solving and building knowledge about language. Swain& her colleagues, 2002, as cited in Hinkel, 2005, have experimented with tasks which encourage students to engage in collaborative dialogue and found that tasks where students are asked to write something together tend to elicit collaborative dialogue as the students discuss, how best to represent their intended meaning. Furthermore, through posttest, they figured out the collaborative dialogue has been source of language learning.

Speaking serves as a vehicle “through which thinking is articulated, transformed into an artifactual form, and [as such] is then available as a source of further reflection” (Smagorinsky 1998: 172, as cited in Lantof, 2000), as an object about which questions can be raised and answers can be explored with others or with the self. As Smagorinsky (1998) says, “The process of rendering thinking into speech is not simply a matter of memory retrieval, but a process through which thinking reaches a new level of articulation.” (pp 172-3). Ideas are crystallized and sharpened, and inconsistencies become more obvious. To repeat, Sue’s speaking was a tool through which her thinking was articulated and transformed into an artifactual form, and as such became available as a source of further reflection. She recognizes through the inconsistencies in her explanations, that she did not understand what this “se” is all about – a step that must surely be important step for her language development to proceed. From a sociocultural perspective, producing language has vital and significant functions in second/foreign language learning and teaching which need to be explored in the future. Over the last few decades, there’s been a shift in meaning from output as product to output as process– a shift that creates the need for some new metaphors, new research questions, and a new respect for our research tools. If verbalization has the impact I am suggesting on second language learning, then research tools such as think alouds and stimulated recalls, need to be understood as part of the learning process, not just as a medium of data collection (Smagorinsky 1998; Swain 2002). Think alouds and stimulated recalls are not, as some would have it, “brain dumps”; rather they are a process of comprehending and reshaping experience – they are part of what constitutes learning Sociocultural theory, then, puts language production in a “star role”. Speaking – and writing – are conceived of as cognitive tools:

- tools that mediate internalization;
- tools that externalize internal psychological activity, RE -cognizing it for the individual;
- tools that construct and deconstruct knowledge; and
- tools that regulate and are regulated by human agency.

**Future Directions**

Experimental studies within an information processing framework would seem particularly fruitful. Investigation of the levels and types of processing that output, under different conditions, engenders seems to me to be a particularly interesting route to pursue. Within a sociocultural theory of mind framework, ethnographic and case study approaches would seem to be more valuable at this point in time, although there is certainly a place for experimental work. Particularly useful to understanding processes and strategies of second language learning will be studies of the collaborative dialogue and private speech of learners as they work to solve language-related problems they face in their language production, be they at the level of morphology, syntax, discourse, pragmatics, or conceptualization of ideas. By studying the collaborative dialogue and private speech of learners, according to a Vygotskian sociocultural theory of mind, we are observing learning in progress. Of considerable sociocultural interest are other broader questions about verbalizing/languaging. For example, if verbalization/ languaging is such an important cognitive tool, can its use help prevent memory loss?

**Other important questions for the future include:**

What are the roles of languaging in distributing cognition, or in what ways does the setting And context constrain or enhance learners’ opportunities to language? The most significant new understanding for me in studying the roles of the activity of Producing language is just how very important it is as a cognitive tool – as a tool which mediates our thinking – an activity which I am now calling “languaging”. Collaborative dialogue and private speech are examples of languaging. My view is that the concept of languaging – of using language to mediate cognitively complex ideas – greatly widens our agenda for second and foreign language learning and teaching theory, research and practice.

**References**

