Bridging the Input Gap: Technology in the LOTE Classroom

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Today, most educators accept constructivist theories that suggest learning is not solely

the result of cognitive or developmental processes that propel learners from one stage to another.

Rather, learning requires constant invention, reinvention, and self-awareness on the part of

learners, and the space to engage in collaborative dialogue, co-constructed between individuals

who share a common purpose. When coupled with the realization that most learning occurs

during interaction with others, it is clear that information provided through dialogue within a

community enables learners to develop skill sets more quickly than educational settings that

view teaching as the art of telling and learning as the art of listening. Indeed, this information,

often labeled "input," enables interaction within and between communities, and acts as the key to

foreign language acquisition. Yet, in many language learning contexts, access to authentic and

meaningful language is limited or nonexistent. In these cases, language learning communities

lack abundant and meaningful input, which facilitates the development of a complex

understanding of language forms, functions, and pragmatics. Isolated language learning

communities can use Computer Assisted Language Learning (CALL) programs and interfaces,

widely available on the Internet, to overcome these problems by allowing students to access

worldwide communities with whom they can interact in meaningful and productive ways.

In this paper, I will discuss contemporary notions of language learning, especially as they

relate to the role of meaningful input in second language acquisition (SLA), and provide some

suggestions for ways in which CALL can help instructors and learners overcome many of the

inherent difficulties in teaching and learning a second language (L2) outside areas in which the

language is spoken. In essence, I propose the means to develop language learning communities across vast geographic expanses.

I believe, as do many contemporary language acquisition and foreign language education theorists (Kim & Rissel, 2008; Lantolf & Appel, 1994), that language learning communities are bound, at the most basic level, by the input (language in its multiple forms) provided to learners, interaction between learners, and the creation of authentic and meaningful communities in which language exchange can take place. Although I may differ from those who espouse a cognitive view of learning, I believe that social constructivist theories, with their emphasis on mediation and co-construction of language based on the transmission of meaning (Donato, 1994; Gass et al., 1998) provide a more effective means of exploring and explaining language acquisition than nativist theories that rely on personal cognitive explanations. While Fosnot (1996) notes that constructivism is a theory about learning, not a teaching technique, sociocultural educational practices benefit foreign language education (FLE) in a myriad of ways, including (1) the creation of shared space in which the co-construction of language and meaning can take place, (2) the privileging of individual interests and personal journeys, (3) the creation of communities that open meaningful communicative and interactive opportunities to all students, and (4) the lessening of student anxiety (the affective filter). Each of these areas is important, yet their true value lies in their ability to facilitate the effective and efficient use of good language input.

Although the need for good input is undeniable and is reflected in ACTFL/NCATE and New York State Standards for teaching Languages Other Than English (LOTE), we might well ask what the characteristics of good input are. In this brief discussion, I will suggest that, in general, good input is meaningful, interesting, purposeful, and canonical.

First, input that is provided to language learners must carry a message that students need to understand if they wish to successfully complete an activity. Meaningful input creates connections between form, meaning, and function, and generates situations in which the learner's understanding of the language is equally contingent upon decoding lexical items and grammatical forms. Unlike purely mechanical drills that privilege memorization or parrot-like repetition of forms, meaningful input provides a reason for learners to pay attention to the whole language (grammar and meaning).

The importance of meaning-bearing language and its effect on the SLA process cannot be overstated; however, the second characteristic of good input, its ability to interest students, is equally important. Input that is interesting to learners motivates them to explore the language through content and multiplies exponentially the quantity and quality of input that learners receive. The result of increased exposure to content, accompanied by an underlying desire to understand the meaning of the language, hastens the language acquisition process more so than input that learners believe is disconnected from their daily lives (Krashen, 1982).

Good input must also be purposeful and should require learners to do something with language beyond manipulating grammar forms. Indeed, as related in the New York State LOTE Syllabus, language study is not the study of verb forms and static lexical items. Rather, language study should consist of meaningful interactions that have real-world, communicative purposes.

Finally, good input must be canonical. Essentially, this means that the language to which students are exposed contains standard grammatical forms, includes lexical items that are common in everyday speech (high-frequency vocabulary), and is clearly articulated (Lee & VanPatten, 2003; Larsen-Freeman, 1985; & Hatch, 1983). Together, these characteristics define language that learners can use to facilitate acquisition of the L2.

Yet, in many language learning contexts, input is too often inconsistent and impoverished to activate language learning processes. When coupled with the idea that much of the input provided to students is uninteresting due to its inability to connect to the lives of young learners, instructors face serious challenges in presenting input that can spark interest and provoke language learning. Traditionally, input has taken the form of canned, cartoon-like activities that push students through a sequence of exercises that begins with mechanical drills, drifts through what was labeled meaningful activities, and ends with minimally communicative exercises (Paulston, 1972). This classification of drills is based not on real-life, meaningful interaction with the language, but rather on what Paulston (1971) calls "(1) expected terminal behavior (2) degree of response control, (3) the type of learning process involved, and (4) criteria for selection of utterance response" (p. 202). As Paulston (1971/1972) points out, students and teachers alike soon realize that mechanical classroom activities, such as asking the color of a shirt or the name of a fellow student, are meaningless drills whose answers are obvious and whose communicative intent is negligible, at best. The lack of real-life and purposeful language stifles classroom interaction and deprives learners of the input needed to activate language acquisition processes.

Moreover, input that derives from textbook activities does not possess either an understanding of the particular context in which the L2 is being studied or an integrated and realistic look at the target culture (C2), and results in activities that tend to bore rather than excite learners about the possibilities inherent in language study. These problems, taken together, create an input gap that rests on a socio-cultural and pedagogical disconnect in which nuances of the classroom, including the personal and reflective practice of teaching foreign languages, are at odds with externally generated materials that offer ample drill-like activities but little real substance for communication and interaction.

This input gap, as I see it, is created by insufficient access to language forms, whether written, oral, or other, to promote language learning. In many significant ways, this input gap is inherent in foreign language education (FLE) contexts in which easy access to authentic language is not possible due to the geographic area in which the language is being learned. Simply put, in the FLE context, the language being studied is not the language of the larger community, resulting in learners being unable to accumulate an inventory of language forms and functions that can foster language learning. The FLE situation is contrasted with second language education (SLE) contexts in which a language learner is attempting to acquire the L2 in a country or region in which the language is spoken (e.g., a non-native speaker of English attempting to learn English in the United States). The FLE input gap is exacerbated by the pervasive use of outdated and commercially generated materials that fail to offer meaningful or interesting learning opportunities to students. When joined with ineffective language teaching methods that promote rote memorization of forms over the authentic use of language, the scarcity of language forms and their related functions offered in the classroom does not allow learners to avail themselves of innate language learning processes that are part of the cognitive structure of humans.

Although individualized, teacher-created materials might solve many of these problems, it is clear that even the most conscientious and creative foreign language educator cannot develop sufficient materials to cover the broad input gap or to pique the interest of all students in the classroom. These concerns seemingly render the input gap unbridgeable.

Yet, in reality, this gap can be successful spanned with the use of technology. Instructors can use various Computer Assisted Language Learning (CALL) activities to fill the input gap and provide increased opportunities for language learners to read, hear, and see the L2 in

meaningful and constructive manners. In recent years, the effectiveness and interactive use of technology in the foreign language classroom has been facilitated by revolutionary changes in computer networking that allow for the efficient delivery of content via interconnected networks. This has led, as Warschauer (2004) notes, to a new phase of CALL that fosters authentic connections outside the classroom, provides students the opportunity to explore and expand their knowledge of the L2 and the target culture (C2), and creates opportunities for engaging students by assessing topics of interest to them. In fact, uses of technology promote unparalleled creation of language learning communities across vast geographic spaces while also creating an arena for the co-construction of learning modules that help instructors shift away from mass standardization of education toward greater use of contextualized materials (Duber, 1999; McLellan, 1996).

There is little doubt that technology, when seen from this point of view, fosters student-centered learning and promotes an ecology of language instruction that hinges on an eduversity that helps educators see beyond the traditional boundaries of language teaching. The effective use of CALL opens doors to a new conceptualization of language teaching by suggesting that the field of foreign language education is no longer trapped in a single-source conceptualization of materials and roles. This evolving conceptualization of foreign language learning encourages the use of technology that connects students to their interests, to valuable input, and to meaningful interactions that create opportunities for contextualized acquisition of grammatical, lexical, and cultural awareness. Alongside these benefits of technology in the classroom, the effective use of CALL helps learners overcome one of the primary causes of language acquisition failure: lack of motivation. All too often, textbook readings and activities are unappealing to learners who are more interested in pop culture than in great works of literature from the past or cultural tidbits

that seem unconnected to their lives. Moreover, these readings are often disconnected from language learning and are placed in neat "culture capsules" that appear at the end of textbook chapters and that fail to engage students on cultural or linguistic fronts. Technology can help instructors overcome these problems by engaging students in activities that have real-world and practical purposes. This creates, in short, a second space for learning that exists alongside classroom activities. This second space is the area of individual interest and purposeful interaction that promotes motivation and allows students and instructors to work together in the choice of readings and materials, within the confines of an over-arching topic that meets individual needs and basic second language acquisition principles.

It is clear, therefore, that CALL and other technologies provide increased opportunities for meaningful input and individualization of the curriculum, concepts that motivate and lead to successful language acquisition. We might ask, however, what essential tasks technology can accomplish within the larger context of foreign language education. Warschauer (1996) suggests that computers fulfill three specific roles in the classroom, including acting as tutors, providing stimulus to learners, and functioning as tools that can be used to enhance language acquisition. It is in this final role that computers can best serve language learning needs. At a very general level, Warschauer (2004) notes that computers open new worlds of possibilities for students who might be bound to the confines of classrooms or language labs, bound, in essence to contexts in which authentic input is lacking or completely unavailable. These new worlds are full of input, potential, and promise for engaging language learners in meaningful real-life interactions with others. In more immediate terms, CALL applications that have been used in the foreign language classroom are word processing, interactive games, works of literature transcribed and stored on hard drives, corpus linguistics, computer-mediated communication (CMC), and access to the

World Wide Web (WWW). Of these, CMC and the WWW appear to be particularly appropriate for bridging the input gap. Both of these applications are low cost and highly effective in opening new avenues of language, cultural, grammatical, and literary exploration to students.

CMC

Of all modern technology, CMC is perhaps the most profitably technology for foreign language classrooms (Warschauer, 2004; Chappelle, 2003; & Peterson, 1997). In broad terms, CMC is defined as human interaction across two or more networked computers that occurs in either synchronous or asynchronous time frames (Warschauer, 2004; Peterson, 1997). Briefly, synchronous communication is real-time interaction between two or more individuals who are commonly brought together in electronic chat rooms, real-time bulletin boards, or text messaging. This type of communication requires that language learners listen, read, or watch input and respond appropriately and immediately. In this form of CMC, grammatical accuracy and well-formed phrases are less important than communicative intent. However, these interactions can be saved, affording instructors the opportunity to review errors and to provide individualized feedback to students. Asynchronous time frames, on the other hand, are less spontaneous and allow for reflection prior to responding. Common forms of this type of communication are e-mail, bulletin boards, and discussion groups that do not require immediate responses to postings. Replies, in this case, are composed in a less hurried manner and therefore demand greater attention to detail, grammatical accuracy, and communicative intent.

Communication of this type can be individual, group, or classroom generated and can broach a wide variety of topics. In all cases, instructors can save and review these communications for appropriate content, language, and attention to form (grammatical

accuracy). Either of these forms of CMC, as Warschauer (2004) and Brett (1998) suggest, allows learners to enter new communities, engage in new discourses, and construct interpersonal connections within broader communities. However, the value of CMC goes beyond the creation of enlarged communities. CMC also provides a "safe haven" for students who might be able to use the language well but who are afraid of engaging in the terrifying act of classroom discussions. Chapelle (2003) suggests that these students can "lurk" in a discussion room without the pressure to produce language that is often overwhelming. In all cases, for students who linger in discussion rooms, send e-mails, or post to bulletin boards, the amount of input they receive is far greater and more personally meaningful than what occurs in the foreign language classroom.

Electronic pen-pal relationships, a form of CMC, offer a new twist on an old activity. Students from different geographic location write to one another to answer questions as well as to explain their daily activities, relationships, and other important information. This type of activity is often associated with language classrooms and, indeed, a quick search on the Internet reveals multiple sites that specialize in creating pen pal relationships between schools and individual students. Of course, developing relationships with classes and schools in the countries where the L2 is spoken is the ideal case. Students on both sides of the pen-pal partnership receive valuable input and share their thoughts on topics of interest and import to them. Unfortunately, many web sites that arrange pen-pal relationships between classes require registration and, more importantly, service fees. This, of course, limits an instructor's ability to use these sites to identify and set up pen-pal partnerships. Therefore, language instructors who do not have the financial backing to develop international pen-pal programs might set up in-class and between-class groups. Instructors can assign topics to be discussed, offer suggestions for topic threads, or present possible questions that relate to in-class and school-wide issues. Language instructors

with strong local teaching associations and foreign language teacher networks might consider working with teachers from other schools or districts to create similar groups. While it is true that these partnerships don't involve native speakers of the language being taught, they nonetheless provide a forum for real-world and purposeful communication between two or more people.

WWW

With more than 150 million pages, blogs, and sites, the WWW is rapidly becoming an almost limitless source of authentic materials that can be used, with little or no modification, in the target language classroom (Beatty, 2003). Perhaps more importantly, information on the WWW is mostly free and enhances all language skill areas, including reading, writing, listening, and cross-cultural comprehension (Yang & Chen, 2006). The WWW has evolved into a shared community that offers students the opportunity to see, hear, and interact with valuable input through access to podcasts, vodcasts (video-on-demand), web quests, e-zines (online magazines), and e-papers (online newspapers).

In addition to these traditional uses of the Internet, weblogs (blogs) and wikis have rapidly found online homes and provide exciting areas where language learning can take place.

Blogs

In short, blogs are "easily created, easily updated websites that allows an author (or authors) to publish instantly to the Internet" (Richardson, 2006, p. 17). These pages are mostly personal interest sites that contain up-to-the-minute narratives of events, activities, and actions related to a single topic of social or cultural relevance. From a language learning point of view,

blogs offer the opportunity to read and create discourse in the L2 and to share experiences and ideas (personal and language learning) with others. Blogs offer language learners several advantages, including personal interest and writing for an audience beyond the socio-cultural context of the classroom. In short, this means that instead of writing for the teacher, an audience of one, students who create blogs write for friends, family, and even people they don't know. This larger audience creates a need for precision, clarity, and meaning that is often ignored when a paper is seen as meaningless in all ways other than satisfying a classroom requirement.

Wikis

While blogs deal with personal interest or one thematic area, wikis enlarge the topical scope by combining multiple web pages into a single, seamless database. Wikis are created through the collaborative efforts of authorized participants who can add or modify content within the framework provided by the creators. Publishing classroom or school-wide wikis can involve all students as they research, write about, and publish information that interests individuals, groups, entire classes, or larger communities. Within the State of New York, it is certainly conceivable that wiki-webs that review content, grammatical forms, and common tasks found on the Regents and Proficiency exams would be a popular and informative series of pages. More importantly, as learners research, publish, and edit these pages, the increased input could have a profound and positive impact on their test-taking skills and overall language acquisition.

Other interesting and pedagogically appropriate uses of the WWW are surfacing almost daily. Podcasts and vodcasts, for example, give access to news and cultural information from around the world and are more often than not free to subscribers. In addition to the "traditional" podcast, which provides news reports and official governmental announcements, foreign

language education websites are increasingly offering podcasts that treat pesky grammar points or which delve into topics associated with introductory language courses. These programs can be viewed in class, assigned as homework, or given to individual students who need extra time mastering critical lexical or grammatical elements of the language. Web quests, and other inquiry-oriented language lessons, are also valuable ways to have students take control of their learning while also gaining important language and culture skills. For the uninitiated, the web quest model provides the question/topic that students will explore as well the process, list of resources, expected results, and evaluation rubric. A casual search of the Internet reveals hundreds of sites that provide ready-made web quests or models for the creation of new web quests. Each site and quest is created around scenarios that students at various linguistic and psychological developmental stages can accomplish with relative ease. Although it has become cliché to speak of the limitless nature of the WWW, it is true that the interconnectivity of the web offers many opportunities for instructors, individual students, and entire classes to explore language, culture, and critical thinking skills.

Even though web-based activities can increase the amount of input that students receive while also working to motivate language learners, a brief word of caution is necessary. Not all language learning websites, podcast repositories, and authentic material sites are appropriate for language learners. Some contain material that is dated, biased, inaccurate or inappropriate for certain development levels (linguistic and psychological). Others appear to be well-designed but lack the content necessary for use in classrooms. With this in mind, instructors should neither blindly enter the technological world nor be captivated by technological bells and whistles, beautiful graphics, and promising titles. Rather, as language teachers begin to consider websites for appropriateness, criteria for use and adoption of websites should be considered. At a

minimum, a thorough check of linguistic content, developmental appropriateness, technical efficiency, and content appeal should be made. The following might assist in the conceptualization of each of these areas:

Content (linguistic and topical):   Content, whether linguistic or thematic, should be consistent with and supportive of classroom activities by focusing on grammatical structures, lexical items, and themes that are being concurrently discussed in class. While some additional vocabulary development is appropriate, too many new words can bog down comprehension and lead to student frustration. Instructors should also verify linguistic accuracy to ensure that topic and grammatical explorations are reinforced by information found on the web page.

Developmental: Language instructors should ensure that the materials on the websites or in podcasts are appropriate for the linguistic and psychological developmental states of students. Thematic and topical concepts that are too advanced will discourage rather than encourage language exploration. Likewise, web pages that treat inflammatory topics can lead to confusion and dissension within the classroom. Instructors must take the time to explore each web page to ensure that links and topics do not lead to discussions that are inappropriate for students at each developmental level.

Technical: Procedural aspects of the site, including whether all links are active and lead to the intended sites, as well as whether the pages can be accessed from within a school's computer network, should also be checked. This technical check also includes a look at the authenticity of the pages. In short, this means that instructors must check to ensure that information is accurate,

up-to-date, and authored by individuals who acknowledge their role in the creation of web-based material.

Appeal: This check ensures that the content of the website is interesting to students. Further, appeal speaks to the website's ability to engage students to the point where they branch off on self-initiated voyages of discovery. This added bonus increases the amount of input and interest, and can lead to unexpected benefits in the language acquisition process. Instructors often note the difficulty of relating to students and their interests. However, the use of personal interest questionnaires and native language paragraphs on things that students find engaging can provide good information on the types of activities that motivate the class as well as individual students.

Each of these areas is considered in greater detail in Appendix A: A Rubric for Evaluating Web-based Activities. However, please note that while this evaluation, and others found on the WWW, can be easily copied, instructors should consider whether it should be altered to the needs and context of individual classes.

Conversations about the important roles that input, interaction, and context play in the language acquisition process are commonplace in today's language teaching methods courses. However, for many foreign language instructors, incorporating CALL into the classroom seems a laborious process that takes valuable time away from other activities and that ultimately calls into question the role and purpose of educators. What has been labeled "the big I" in teaching interferes with our ability to forgo tight control over classrooms in favor of co-constructed activities that lead to personalization of learning and enhanced student motivation (White, 2007; Harmer, 1995).

No machine, however, can replace a qualified, caring instructor who uses a variety of techniques to create inviting classrooms that promote language learning. As such, instructors should not fear technology or its long term consequences. Rather, we should understand that students in today's society respond to computers and technology as no prior generation has. Studies have shown that students around the world enjoy and benefit from CALL as well as feel a sense of satisfaction with personal accomplishments generated by self-regulated learning (Chen, 2003; Ayres, 2002; Jabir & Omar, 2000; and Park, 2003). With this in mind, it seems clear that foreign language educators should jump on the technology bandwagon and use its resources to promote L2 learning, cultural awareness, and interpersonal interaction. For those who are either unfamiliar with or need reacquaintance with the use of CALL in language classroom, I recommend Elizabeth Hanson-Smith and Sarah Riling's (2007) *Learning Language through Technology*, John de Szendeffy's (2005) *Using Computers in Language Teaching*, David Jonassen, Kyle Peck, and Brent Wilson's (1999) *Learning with technology: A constructivist perspective*, and Mark Warschauer's (2006) *Laptops and literacy: Learning in the wireless classroom* as good points of departure on the journey toward the effective and appropriate use of technology in the foreign language classroom. These works and a little imagination can lead to the creation of activities that cross traditional classroom boundaries and promote L2 acquisition in secondary education and beyond.

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Appendix A: Rubric for Evaluating Web-based Activities

Evaluation Criteria		Above (10–8)	Meets (7–5)	Below (4–0)
Content	Grammatical	Grammar concepts on the site are consistent with and reinforcing of classroom lessons and contain no linguistic forms that will create linguistic dissonance; grammar contained on the site is canonical and contains no marked forms.	Grammar concepts on the site are mostly consistent with and reinforcing of classroom lessons; the site contains some grammatical forms that are not appropriate for the tasks and that might confuse students.	Grammar concepts are not consistent with or do not reinforce classroom lessons; the site contains many grammatical forms that have not been explored and that might confuse students.
	Lexical	Vocabulary used on the site is consistent with and reinforcing of concepts and vocabulary discussed in class; vocabulary is high frequency and contains few marked terms.	Vocabulary used on the site is mostly consistent with and reinforcing of concepts discussed in class; some terms might be confusing to students and might require teacher explanation; some lexical items are marked or are not high-frequency items.	Vocabulary used on the site is inconsistent with concepts discussed in class; vocabulary is highly irregular and contains many low-frequency or marked items; vocabulary is not appropriate for the class's linguistic or psychological development levels.
	Thematic	The topic of the site is consistent with content discussed in class while allowing for some personalized search and discovery.	The topic of the site is mostly consistent with content discussed in class; some elements of the site, including links, lead students away from the main ideas discussed in class; some topics might be inappropriate for the class.	The topic of the site is unrelated to content and themes discussed in class; content is inappropriate for students at this level of language or psychological development.
Developmental	Linguistic	Language, including grammar and lexical forms, is appropriate for the level of the students and provides rich and authentic input.	Language, including grammar and lexical forms, is mostly appropriate for the level of the students; some forms are not consistent with classroom materials/concepts.	Language, including grammar and lexical forms, is not appropriate for students at this level and varies significantly from themes and concepts discussed in class.
	Psychological	Language, content, and themes are appropriate for the age and emotional maturity of the students; links do not lead to sites that are offensive or that	Language, content, and themes are mostly appropriate for the age and emotional maturity of the students; some links lead to sites that are offensive or that treat subjects	Language, content, and themes are inappropriate for the age and emotional maturity of the students; many links lead to sites that are offensive or that treat subjects

		treat subjects inappropriate to the developmental level of the students.	inappropriate to the developmental level of the students.	inappropriate to the developmental level of the students.
Technical	Links	All links are active and lead to websites that are consistently maintained.	Most links are active and lead to websites that are consistently maintained.	Many links are inactive; some links lead to sites that are inappropriate.
	Authority	Language on the site is intended for native speakers; language is canonical and contains no errors of usage, spelling, or grammar; it is clear who maintains the site.	Language on the site is mostly intended for native speakers; language is mostly canonical; it is not always clear who maintains the site.	Language on the site is often intended for non-native speakers; language contains many errors; it is unclear who maintains the site.
	Accuracy	Information on the site is accurate, complete, and up-to-date; all activities associated with the site are consistent and treat only linguistic elements or content found within the site's pages.	Information on the site is mostly accurate; some forms contains errors or complex explanations that students might find difficult to understand.	Information on the site is often wrong, incomplete, or out-of-date.
	Organization	Site's structure is easily navigated; links appear active. Information is easy to find.	Site's structure is mostly consistently; some information is hard to find.	Site's structure is difficult to navigate; information is difficult to find.
Appeal	Rich	Content is meaningful and interesting; site provides opportunities for additional exploration of concepts and ideas associated with the topic.	Content is mostly appealing to students at this developmental level; some avenues for additional exploration are provided.	Content is mostly unappealing to students at this developmental level; no avenues for additional exploration are present.