# Blended Learning: Issues Driving an End to Laboratory-based CALL

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Traditional computer-assisted language learning (CALL) is emerging from a closed, laboratory-based venue into an open, flexible delivery mode called 'blended learning'. This essay explores the problems that students, teachers, and materials designers have faced in language learning and the reasons for the emergence of blended learning environments. These trends in language learning point to a preferred medium of delivery that combines face-to-face instruction and online networked collaboration. In addition, wireless technology allows highly flexible physical classroom spaces which will become commonplace in schools this decade. This may inform traditional CALL methodologies, which have often looked at language learning more from a technological perspective and less from a pedagogical view. This essay predicts that closed laboratories operated by CALL specialists will disappear, replaced by ordinary classrooms where even non-technically oriented teachers can integrate internet-based activities into a face-to-face setting. This new reality is illustrated by sample blended learning tasks applied to classes teaching English as a foreign language with beginning level students. These examples illustrate how online activities can be embedded into face-to-face classroom language learning tasks.

コンピューター支援言語学習（CALL）は、研究室をベースとした閉鎖的な環境から抜け出し、従来の教室授業に導入され、よりコミュニカティブな共同学習の場となりつつある。同時に、対面授業の場においてもインターネット調査、emailの交換、マルチメディアを利用した発表などのオンライン活動が導入され、その教育法も変化する傾向にある。このような教授法の融合は「統合型」または「ハイブリッド型」言語学習と呼ばれている。本稿では、①学習者、②教師、③授業設計者らが抱えるニーズと問題点を分析し、この傾向の起因を解明する。彼らが自らの言語学習法・教授法に、新しい技術を取り入れる際の視点をそれぞれ概説する。次に、統合型と非統合型の言語学習の実例を比較し、この傾向に関する詳細な見解を提示する。本論文では、言語学習の過程はますます統合された視点によって組み立てられ、さらには２つの学習の場が実質的に区別できないところに達することを結論付ける。

**Introduction**

Language teachers are seeking increasingly rich and active learning environments for their students. Network-mediated learning and computer-assisted language learning offer directions that have attracted attention and are now considered an important component or venue in any language learning curriculum. However, this trend faces significant problems as learners, teachers, and designers deal with complicated decisions in integrating new technology into language learning tasks. Curriculum design that accounts for these problems may avoid repeating mistakes from traditional learning approaches.

Presently, the vast majority of foreign language teaching is conducted face-to-face in classrooms. To a lesser but growing extent, foreign languages are taught through CALL venues such as language laboratories or online networks. Classroom venues and CALL venues have been commonly separated, with separate rooms, separate texts/software, and even separate schools of research. Gradually, however, this line between computer and non-computer-based teaching is blurring. Classroom venues are expanding to include online, mobile, and self-access computers. Teachers may, for example, assign homework in school CALL laboratories, set up email exchange programs, establish web portals for posting assignments, and provide links for research on the Internet. Likewise, CALL instructors are moving to incorporate more communicative tasks, even face-to-face tasks such as simulation games, pair-work, and oral presentations. As more of these activities are employed, 'computer-based' and 'classroom-based' teaching are merging. This combination of online and face-to-face environments is called 'hybrid' or 'blended' learning (Bersin, 2004).

Blended learning is already a major, unacknowledged force in education. Eklund et al. (2003) note that this blended mode, "is commonplace, meets the needs of larger numbers of students and teachers, and seems a key component of the more successful

uses of ICT" (p. 21). This trend will further accelerate as wireless networking takes hold. Teachers in wireless, networked venues will be able to employ both face-to-face tasks and online tasks within the same class period without having to move from room to room. The rapid growth of wireless networking will enhance blended learning by permitting teachers to simultaneously structure tasks with both online and face-to-face activities.

In the language learning field, blended approaches may be growing more popular among second language instructors. In an online poll of 300 CALL-related language teachers from 36 countries, Ruthven-Stuart (2002), found that 98% agreed that one of the roles of a computer was "a complement to classroom teaching". This suggests that both face-to-face and computer-based teaching hold important roles in the mix of venues for CALL teachers today.

Going beyond recognition of its de facto use, Schneider (2004) recommends blended learning be used as a teaching strategy for choosing appropriate delivery channels in any learning program. His list of channels includes physical classrooms, printed media, email, telephone, message boards, mentoring systems, simulations, online collaboration, self-paced e-learning, and mobile/wireless tools. If we view blended learning in this way—a strategic selection of channels and venues to optimize a learning program—the design of language learning tasks begins to take on a new look. In task design, Brodsky (2003) calls for 'proactive blending' that evaluates the relative merits of using technology mediation for a particular task. In other words, a particular task, or task element, may have properties that lend itself to either face-to-face implementation or online deployment. Thus, 'blended' is not a single approach or a separate alternative to online/classroom venues, but rather a flexible continuum of various language learning environments. In such a paradigm, there can be no definition of an "online task" that is separate from a "classroom task". The aim of blended learning is then to span this continuum, defining and describing tasks that encompass a multitude of

venues—classroom, home, laboratory, and field.

Learners, teachers, and materials designers all face the challenge and confusion of using computer-based learning environments. Learners are at the mercy of every new experiment in technology and naturally expect more useful language learning if they are to invest their energy. Many teachers have been frustrated by traditional CALL technology that they see as impeding face-to-face communicative skills. Face-to-face learning offers too many advantages to abandon it to a closed laboratory learning environment. Finally, designers of language learning materials have to change to a new collaborative world that has accompanied the network-based language learning (Kern & Warschauer, 2000).

Accordingly, this essay examines the current situation of CALL and the emergence of blended learning from the perspective of these three stakeholders: the learner, the teacher, and the materials designer. In addition, examples of a blended task approach in language classroom situations will illustrate this trend.

**Problems of the Learner**

To serve the needs of foreign language learners, an environment which most closely resembles actual use of a target language is needed. First, learners need communicative, purposeful use of a language to begin acquiring it—a difficult design issue in locations far from English-speaking countries. In addition, learners also have individual preferences, backgrounds, and priorities as they enter online and face-to-face environments, and may reject one that does not account for their needs.

*Inauthentic Target Language Involvement*
Chapelle (2001) argues that usefulness or 'authenticity' (p. 55) to the learner is a main criterion for CALL task appropriateness. In foreign language teaching contexts, students

in secondary and tertiary schools have limited opportunities to actively engage in using the target language. Surrounded by native language speakers, students rarely enter the world of the target language, despite the diligence of a teacher attempting to employ communicative language tasks. A typical, once-a-week class may be accompanied by minimal homework, often without feedback due to the large class size. In contrast, second language learning situations have the advantage of being surrounded with daily activities and experiences to practice the new language. Students located in English-speaking communities can appreciate projects which immediately appear useful in achieving real world tasks.

In addition, the tendency for foreign language learners to slip back into their native language to complete language-learning tasks is perhaps the most pervasive problem blocking acquisition, particularly in face-to-face classrooms. What role would online environments play in increasing target language interaction if they were added to a traditional classroom? What combination of online and face-to-face sub-tasks would keep learners more engaged on task within a target language? If traditional classrooms can be connected into online, interactive websites to actually use the target language in authentic, communicative tasks, it may be possible to improve the quality of each task.

*Improper fit with learner preferences and priorities*

A second issue is that learners are often mixed into classes without regard to their L2 level, or taught in ways that do not match their goals or learning styles (Robinson, 2002). Students learning in CALL laboratories may find themselves in a more structured environment than appropriate, or taught using methods that do not fit. Chapelle (2001) points out that one criterion of CALL task appropriateness is 'learner fit'. If a language level in a task is too easy, learners are likely not to improve; if too difficult, they may give up. Similarly, tasks poorly chosen according to learner age, willingness, and learning style may fail or be rejected by learners. Blended classrooms may allow learners of different levels and styles to be accommodated when compared with courses

delivered in a single-mode. In addition, distance learning programs have to change by including face-to-face collaborative approaches along with solitary-based learning. The single learner in self-study with media has been criticized as too self-centered. Klebl (2004) calls this, "…the loneliness of the long distance learner" (p. 5). Blended learning that offers a mix of group and solitary exercises can then support a greater number of learning styles.

## Problems of the Teacher

The previous section discussed issues of learner needs and background. This section focuses on problems teachers have in assuming collaborative roles and selecting learning approaches, activities and environments. Teachers are particularly challenged as single-environment situations are disappearing into more complex, hybrid scenarios. Human to human collaboration augments machine interaction, yet brings unfamiliar situations with multiple, simultaneous roles for students and teachers. Teachers may be uncertain as to how and where to set up tasks and sub-tasks－online or offline.

### *Resistance to Facilitative Roles*

Historically, language learning pedagogy has been form-focused and teacher–centered. The past few decades have seen replacement by meaning-focused, learner-centered, communicative approaches. Some CALL researchers advocate an evolution from the self-enclosed venue of the language laboratory to open, networked communities (Kern & Warschauer, 2000). With online collaboration, student-created texts, projects, and reflections become more central to the learning process than teacher-created materials.

As learning environments are designed, their activities or 'tasks' can be either pre-determined by a textbook writer, a curriculum committee, an instructional designer or they can be designed as a negotiation process between these professionals and the actual users: the teachers and students involved in a 'collaborative' process.

Management of this multi-stakeholder process is handled as a facilitative role rather than the instructive role that most teachers are comfortable with. For teachers in this paradigm, 'authoring' is now a less important skill than 'facilitating'. This situation may be challenging to teachers accustomed to tightly controlled classroom activities. This new kind of role may be a stumbling block for generations of teachers unfamiliar with collaborative learning.

*Fear of Sacrificing Spoken Communication*

Many communicatively oriented teachers reject CALL or network-based language learning because non-verbal communication and verbal spoken discourse is difficult to implement. They fear that spoken communication and activities such as information-gap pair work or group discussion must be sacrificed if they switch to a CALL laboratory. This is understandable as written forms of communication presently dominate online learning. Forums, journals, chat rooms, messaging, wikis and other groupwork tools are all text-based activities built for expressing thoughts in writing. Spoken communication is increasingly possible (via video chat or telephony, etc.), but will need significant time to develop and proliferate. This need not be a problem if a learning environment can be designed where face-to-face class work can be combined with online work. Teachers can flexibly select a face-to-face environment to focus on specific communicative tasks and activities where advantageous. Then an appropriate amount of online complements can be chosen for written preparation or follow-up. Thus, a blended solution can involve more teachers who until now may have refused to adapt online tools.

*Inflexible teaching environments*

Teachers also want classroom environments that offer the greatest flexibility. Much capital has been invested by schools in bolted-down learning laboratories. These machine-oriented environments with complex teacher controls force a solitary, machine-student relationship. Yet language is inherently social. Thus, 'language laboratory' environments with walled-off cubicles have led us to think of CALL as an

alternative venue to face-to-face venue, rather than as a tool within a task or curriculum.

A rapidly emerging technological trend that will break this inflexibility and greatly influence the design of tasks is wireless networking. Already some IT-related university departments are requiring students to carry wireless-enabled notebooks to class. If this trend spreads to all university students, teachers in wireless, networked venues will have a completely new situation on their hands with regard to task planning. For example, at Kanda University of International Studies, the physical architecture has already begun to change with new 'blending learning rooms' equipped with flexible, movable desks and chairs combined with wireless notebook computers for every student.

A teacher in such a classroom may say, "on your site, write your answer in forum b" just as easily as saying "take out a piece of paper and write your answer." Instead of using online collaboration solely for labwork, homework, or distance learning, online sub-tasks will be mixed into task chains in any table/chair classroom environment. For example, here is a task sequence you might see in a typical beginning level EFL university class with wireless networking capability.

**Task:** Introducing yourself to strangers visiting your campus

**Sub-tasks:** *[O] = Online* *[FF] = Face-to-Face*

- Show video clips of Korean students preparing to come to Japan, arriving and greeting students on campus [O or FF]
- Roleplay the situation (half students pose as Korean visitors) [FF]
- Reflect on language phrases used [FF]
- Type words/phrases into personal glossary [O]
- Refer to paper text, do choral and pair info-gap dialogues [FF]
- Watch teacher or video model non-verbal greeting elements [O or FF]
- Practice non-verbal (voice stress/intonation, face, eyes, hands) [FF]
- Pass out role cards of famous people, do formal greetings [FF]

- Reflect on experience in L1 in small group discussions    [FF]

- Write details of discussion in L1 and one sentence summary in L2      [O]

This task sequence can be facilitated in less than an hour with flexible, movable desks and students alternatively communicating online and face-to-face with peers and teacher. Thus, the rapid growth of wireless networking will allow not only blended learning in general, but also blending learning tasks with simultaneous online/face-to-face activities.

**Problems of Materials Designers**

One of the main problems facing materials designers is the change to collaborative learning and conceiving tasks in a blended world.  Task-based learning researchers (Bygate, Skehan, & Swain, 2001; Ellis, 2003) and many classroom material developers focus on classroom-only tasks, often ignoring the powerful advantages of automation and publishing in CALL.  In a network-based community, learner-created texts are stored in a database and published on the community website.  Providing this kind of access is difficult and expensive in a face-to-face, print world.  Thus, there are weaknesses in a pure face-to-face classroom that shared databases can solve. A collaborative teaching approach necessitates a high degree of sharing, access, and feedback.

*Prescriptive, Non-negotiated Task Design*

Task design changes in a collaborative world. Instead of authoring a text or multi-media presentation, a designer must facilitate a process that involves learner-created texts. This approach is based much on the educational philosophy of social constructivism and socio-cultural theory—that learning happens as we interact with the community around us (Lantolf, 2000). Collaboration is not just an initial design stage, but it also continues throughout the learning process as teams and individuals gather and separate to meet

various levels of learning goals in a scrambling effort of achievement seeking. Prescriptive approaches to this environment may hinder or even halt the learning process. Early CALL models used concepts that fit better for single learners in isolation, but did not encompass the collaborative aims of complex learning scenarios. Nonetheless, automated task sequences can still be a useful support tool for larger negotiated goals. These more rigid activities initially appear similar to the programmed learning tools of the past era, yet here they are included as a sub-task within a complex pattern of face-to-face and online activities, often selected 'just-in-time'. A highly flexible instructor/facilitator and an easily configurable computer user interface are needed to guide such a negotiated, often ad hoc, learning world.

Klebl (2004) suggests that 'process' in a learning scenario need not be designed in advance, but could be created automatically, with the use of an "adaptive learning system. "  In other words, by tracking the learning activities chosen by learners, a successful learning scenario could be mapped afterwards. He warns, however, that presently teacher/designers often do not specify the processes of learning, but simply stop at collecting content, and assume that collection of content itself is the teaching-learning-process. An active component or module in a collaborative online environment "usually offers insert - categorize - annotate - evaluate - sort - search functionality" (Schneider, 2004, pp. 17-18). This process is a not just interaction between learner and content, but also interaction between learners in class, learner-teacher-interaction, and human-machine-interaction.

*Infrequency of Recycling Task Content*

A constant problem of foreign language classes as compared with intensive language programs is the infrequency of class time and the lack of teacher time to give feedback on relevant homework. Designers can deal with this problem by judicious use of online websites. The primary advantage of the online vs. face-to-face recording of writing is the central location of website. This enables easy sharing and subsequent commenting

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and collaboration. Instead of papers posited into individual notebooks, unseen and often lost, the texts can be shared and safely preserved for continued searches and rereading. Homework assignments can be designed to recycle activities and content covered during face-to-face class time. Reflection is often an afterthought in a language teacher's lesson plans. In task-based learning theory, reflection is considered as important as performance of the actual steps of the task. Gruba's (2004) model of task design calls for reflection steps in the process for effective online collaborative language learning.

*Non-universal Terminologies for Task Design*

Finally, a third problem facing designers is the need to create international standards of terminology. The computer world and the classroom-teaching world each have their own vocabularies for describing learning activities. For CALL teachers, rigorous programming languages dominate, while classroom teachers rely on different educational jargon. Bridging this gap rests on finding a universal language for the educational process. For example, international boards are calling for the portability of software for task scripts and standards for storing, sharing, and evaluating these scripts. A universal task description that crosses all environments for collaborative, blended language learning would make a timely impact on this issue.

Standardization of both scripting and design would allow teachers to share useful and successful tools, activities, and content that they choose to make available to the larger community. Researchers would benefit as tasks designs are evaluated, rated and commented on by teachers. Hands-on experience by teachers would reveal which tasks are found useful, and with written evaluations, they could begin to understand why they were popular. An empirically based task design framework emerging from blended classrooms where language teachers are already experimenting, may lead to a more useful and practical international standard.

**Designing a Blended Learning Task**

These issues of learners, teachers and materials developers can be addressed step-by-step by redesigning classroom tasks or language laboratory tasks from a blended learning perspective. For example, instead of a solitary online activity planned for a CALL laboratory, the task could be blended with face-to-face classroom activities. In Table 1, there is a student glossary-making activity that uses a variety of online tools such as group documents (wiki), search engines, and discussion forums together with common classroom tasks. It is an example of a blended paradigm, where the face-to-face technologies would be included with equal importance.

*Table 1:    Glossary-making Task for Blended Learning*

| | *Phase* | *Tools* | *Instructions* |
|---|---|---|---|
| 1 | Identify interesting "words" | Brainstorm (FF) Wiki (O) | Students brainstorm a list of words as teacher writes them on the board.  Each student selects three terms and enters them into the wiki. |
| 2 | Agree on a provisional list | Discussion (FF) | The list is discussed, cleaned up and each student receives 3 items to work on. |
| 3 | Search for information and share links | Search engine (O) Links manager (O) | Each student produces 4 links (day 1) and comment on 2 other links (day 2 of homework) |
| 4 | Synthesize and edit | Pair Discuss (FF) Wiki (O) | Each student receives 2 links and has to edit them.   Students discuss in pairs. |
| 5 | Get feedback | News engine (O) Discussion (FF) | Teacher writes a feedback article.   Students discuss article in class. |
| 6 | Edit final definitions | Wiki (O) Print list (FF) | Students make final modification to their work. Print list and hang on wall. |
| 7 | Reflect on task | Discussion (FF) Journal (O) | Students reflect about task in group discussion. Write comment in journal. |
| 8 | Assess whole task | Gradebook (O) | Teacher writes assessment and marks grades. |

While it is not the scope of this article to document a case study of blended learning tasks, this example gives a concrete portrayal of how blending learning will affect task design, combining convenient access and permanent publishing from online subtasks, with richer reflection from face-to-face sub-tasks.

## Conclusion

Blended learning is an emerging trend that is replacing laboratory-based CALL, especially as wireless classroom learning environments proliferate. The hard-wired CALL laboratory has been found unsuitable for some institutions as blended learning offers lower implementation costs and more flexibility in teaching. The dual paradigms of "CALL classroom" vs. "blackboard classroom" are merging into a blended paradigm and likewise the concept of a learning task may change as well. Tasks will include sub-tasks that move back and forth between online and face-to-face venues. This trend may not simply 'solve' the issues of learners, teachers and designers, but may further magnify them. Learners will need tasks that engage them in authentic, purposeful use of the second language, even if they are isolated far away from target language environments. Teachers will have to adapt to facilitative roles and incorporate new technology into lesson plans at a faster pace than today. Designers will be hard-pressed to create objects and lessons that are non-CALL and non-textbook. A final implication is the future of CALL itself. What will CALL become if the computer laboratory disappears and flexible learning spaces take over? In a blended learning world, would not all teachers be CALL teachers? And all CALL teachers become face-to-face classroom teachers? Clearly, the distinctions may fade. CALL, as a field may both cease to exist and yet dominate all language teaching in the near future.

**Acknowledgments**

**References**

Bersin, J. (2004). *The blended learning book: Best practices, proven methodologies, and lessons learned.* San Francisco, CA: Pfeiffer.

Brodsky, M. (2003). E-learning trends, today and beyond. *Learning and Training Innovations.* Retrieved 10 November 2005 from http://www.elearningmag.com/ltimagazine/article/articleDetail.jsp?id=56219

Bygate, M., Skehan, P., and Swain, M. (2001). Introduction. In M. Bygate, P. Skehan, & M. Swain (Eds.), *Researching pedagogic tasks: Second language learning, teaching and testing,* (pp. 1-20). Harlow, UK: Pearson Education.

Chapelle, C. (2001). *Computer applications in second language acquisition.* Cambridge: Cambridge University Press.

Eklund, J., Kay, M. and Lynch, H. (2003). E-learning: emerging issues and key trends. *Knowledge Tree.* Retrieved 15 April, 2004, from http://flexiblelearning.net.au/knowledgetree/edition04/pdf/elearning250903final.pdf

Ellis, R. (2003). *Task-based language learning and teaching.* Oxford, UK: Oxford University Press.

Gruba, P. (2004). Designing tasks for online collaborative learning. *Prospect, 19*, 72-81.

Kern, R., & Warschauer, M. (2000). Introduction: Theory and practice of network-based

language teaching. In M. Warschauer & R. Kern (Eds.) *Network-based language teaching: Concepts and practice* (pp. 1-19). Cambridge, UK: Cambridge University Press.

Klebl, M. (2004). IMS Learning Design: First-hand experience in creating courses. *Workshop TechnischeAspekteder Nachhaltigkeit.* Retrieved 22 April, 2004, from http://www.informatik.uni-bremen.de/mmiss/workshop/presentations/

Lantolf, J. (Ed.) (2000). *Sociocultural theory and second language learning.* Oxford: Oxford University Press.

Robinson, P. (2002). Researching individual differences and instructed learning. In P. Robinson, (Ed.), *Individual differences and instructed language learning,* (pp. 1-11). New York: John Benjamins.

Ruthven-Stuart, P. (2002). The results of an online survey into computers and language teaching. Retrieved 10 July, 2004, from http://www.hokuriku-u.ac.jp/p-ruthven/survey/

Schneider, D. (2004). Conception and implementation of rich pedagogical scenarios through collaborative portal sites. In M. Tokoro & L. Steels (Eds.), *The future of learning II, sharing representations and flow in collaborative learning environments.* Amsterdam: IOS Press.