Distance Education to Distributed Learning: Multiple Formats and Technologies in Language Instruction

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ABSTRACT
Distance education has evolved through many delivery formats, conforming in varying degrees to an Information Age definition of “distance education” that emphasizes two-way electronic communication. The technological characteristics and limitations of each format have implications for pedagogical choices in designing distance education courses for foreign language (FL). Interactive television (ITV) and the World Wide Web, currently the dominant media for distance education, are discussed in light of their suitability for FL education. ITV offers the closest replication of the face-to-face learning experience while presenting important practical obstacles, particularly for delivery across multiple time zones and institutions. The World Wide Web is universally deliverable and economical but is constrained by limitations on media facilitating communicative interaction in the spoken channel and is, therefore, more suitable to advanced courses in skills other than speaking. Distributed learning, which combines various media and may include a face-to-face component, is the most appropriate distance learning solution for beginning and intermediate FL instruction. This paper describes a model for introductory Web-based courses combining various media in a distributed learning format and identifies directions in which distributed learning and distance education are likely to evolve.

KEYWORDS
Distance Education, Virtual Education, Language Learning, Interactive Television, World Wide Web

Evolving Definition of Distance Education
Distance education has been defined differently at different points in its history. Traditional or conservative definitions of distance education refer only to a separation between teacher and learner and their use of some means of communication. Such broadly based definitions are of limited utility in the Information Age since
they could apply equally to a correspondence course conducted by post in the
1920s or to a workshop conducted via synchronous Web-based videoconferenc-
ing in 2002. As communications technology has evolved from paper and pencil
through radio, television, and the Internet, the definition of distance education has
changed accordingly, so that newer definitions have come to include additional
criteria and more finely drawn distinctions. Differences between the second and
third editions of an authoritative text on distance education, *Foundations of Dis-
tance Education* by Desmond Keegan, show an important shift in the definition
and scope of distance education. In the second edition, Keegan (1990) argues that
distance education has the following characteristics:

1. separation of a teacher and learner throughout the learning process,
2. separation of the learner or learners from other learners or learning
groups,
3. provision of means for two-way communication so that the learner(s) can
benefit from or initiate dialogue, and
4. utilization of electrical [sic] means of communication to carry the content
of the course.

In this definition Keegan has articulated two important features that have come
to distinguish distance education in the Information Age: first, in addition to the
separation between teacher and learner, communication must be *electronically*
based; and second, communication must be *bidirectional*. Not only do students
receive communication from the teacher, but they also direct communication to
the teacher and to other students. In his third edition, Keegan (1996) further dis-
tinguishes between distance education and virtual education. He argues that virtu-
al education, that is, education in which “the interaction of face-to-face education
has been recreated electronically” (p. 8), such as interactive television classrooms
linked by satellite or other transmission technologies, is really an extension of
conventional education. Distance education, in contrast, “is characterized by the
separation of teacher and learner and of the learner from the learning group, with
the interpersonal face-to-face communication of conventional education being
replaced by an *apersonal* [emphasis added] mode of communication mediated
by technology” (p.8). Keegan’s implication is that some forms of what is usually
called distance education are more “distant” than others. By his definition, for
instance, a language course carried over a two-way full-motion video network
would qualify as virtual education since this mode of communication recreates
the visual and aural presence of the participants to one another. In contrast, a
television-based class in which one-way television transmission to students was
supplemented by telephone communication and email would be distance edu-
cation, as would a class conducted in a Web-based course environment where
students and teacher exchanged information in online postings. In Keegan’s view,
the modes of two-way communication in these two examples are “impersonal”
since neither telephone nor online posting recreates both the visual and aural pres-
ence of other participants.
Distance Education and L2/FL Instruction

Keegan’s (1990) criteria for defining distance education and the distinction made in Keegan (1996) between virtual education and distance education deserve special emphasis in the context of second and foreign language instruction. The 1990 criteria draw attention to the importance of two-way communication in every language learning situation. The 1996 distinction calls attention to important differences in the way this communication can be accomplished—differences between using synchronous (real-time) technologies or asynchronous (delayed) ones and differences between technologies that approach face-to-face communication (e.g., interactive television) and other bi-directional communication technologies that do not (e.g., email). In making decisions about what kinds of technologies are appropriate for which language skills at which levels, Keegan’s criteria and distinctions interact with current theories of language teaching and learning to yield important guidelines for the creation of effective distance language learning programs. If the goal of instruction is the development of the full range of communicative competence outlined by Canale and Swain (1980) and Canale (1983), then communicative classroom activities, or their effective equivalent in the distance learning context, will constitute an important element in instructional design (see Savignon, 1983; Swain, 1985, 2000). It is essential to examine the ability of the technology used to facilitate such activities.

The emphasis on two-way communication in Keegan’s (1990) criteria reflects a watershed in the evolution of distance education that brought it into congruence with trends in language pedagogy. In the past few decades, specialists in language pedagogy have increasingly come to recognize that language is more a complex set of interdependent skills or competencies than a body of mastered knowledge. This recognition has been reflected in two important areas. First, evaluation of learners’ competence in a language increasingly focuses on their ability to perform communicative tasks rather than manipulate linguistic forms (Long & Crookes, 1993; Skehan, 1994). Second, classroom practices increasingly emphasize the use of actual communication in language learning activities while de-emphasizing the mastery of rules about phonology and syntax, in part due to evidence that increased opportunities for interaction and negotiation of meaning positively affect language development (Gass & Selinker, 1994; Lightbown & Spada, 1999). In light of this shift, the criterion that distance education media must enable bidirectional communication takes on special importance for language instruction applications. Forms of distance education that meet Keegan’s (1990) criteria are better suited to language instruction due to their interactive nature. Forms of distance education that do not fit these criteria cannot meet the communicative requirements of modern language instruction. But even forms that fit Keegan’s (1990) definition may have important differences that make them more or less suitable for delivery across wide geographic areas—differences corresponding roughly to Keegan’s (1996) distinction between “distance” and “virtual.”
EVOLUTION OF DELIVERY MODES IN DISTANCE EDUCATION

Early in distance education history, paper-and-pencil correspondence was the only means for the transmission of information between teachers and students. Learners engaged in self-instructional home study of course materials and then submitted assignments and/or tests to instructors by post. This postal traffic passed slowly in two directions. For these reasons, early correspondence courses offered in the past through such institutions as Great Britain’s Open University did not fit the Information Age definition of distance education.

As communications technology advanced, radio and television offered electronic transmission but allowed only one-way delivery of instruction from teacher to student. The lack of an interactive element in such television-based courses as those of NYU’s Sunrise Semester (1950s-1980s) means that courses of this type also do not fit the Information Age definition of distance education.

In the 1960s, the development of computer-assisted instruction (CAI), which included computer-assisted language learning (CALL), focused on the capability of the computer as “teaching machine” to provide stimuli and feedback to learners. Before the advent of networking, however, computers could not serve as tools of communication, and so, in its classic form with one software user on one machine, CALL did not represent a form of distance education at all, but rather a form of self-instruction or independent learning.

The exhibition of the Picturephone by AT&T at the 1964 World’s Fair was the first public appearance of interactive television (ITV) technology (AT&T, 2002). ITV made it possible to link learners at multiple locations into a single virtual classroom through video and voice transmission, meeting the Information Age imperative of electronically based communicative interaction. ITV thus became the first form of distance education to meet Information Age criteria of distance education.

Only when universal availability of email and the Web in the 1990s enabled the creation of virtual classrooms in cyberspace did computer-based forms of instruction become bidirectionally communicative. As of this writing, while Internet applications such as email and Multi-User Object-Oriented Domains (MOOs) are still in use, the World Wide Web has completely overshadowed them as a platform for the delivery of distance education.

In the Information Age, ITV and the Internet—especially the Web—have come to dominate the distance education scene. Both of these delivery formats fulfill Keegan’s (1990) criteria for distance education, but they differ in their relationship to his 1996 distinction between virtual and distance education. The relative costs and benefits of these two media are discussed below.

ITV

Among technologies available for distance education, ITV offers the closest replication of the traditional classroom and most closely fits Keegan’s (1996) definition of virtual education. The face-to-face communication it enables yields particular advantages for teaching listening and speaking. However, ITV is an extremely
capital-intensive technology requiring massive investment at the state or system level that also suffers from geographical limitations.

An ITV system serves a limited number of specialized classroom sites linked by special transmission technology. These classrooms are usually located on separate campuses within a large institution such as a state educational network or a state university system. While the system generally serves locations that are geographically remote enough from one another to render commuting impractical, users must still be physically present in an ITV classroom which they cannot access from home.

Typically, a single ITV class includes no more than three or four remote-site locations in addition to the originating site since ITV is a synchronous technology, requiring the presence of everyone in the classroom at the same time. The need for fixed class meeting times and the expense of transmitting television signals outside a single system means that ITV cannot practically and efficiently serve learners across institutional boundaries and across multiple time zones on an ongoing basis. Therefore, while ITV does offer particular educational advantages, it will probably remain most effective as an intercampus course-delivery system and will not offer practical global accessibility.

In the context of language instruction, it appears that ITV-based distance education offers the strongest advantages for the teaching of languages in which learners are widely scattered on the ground but still within the single large institution served by the ITV network. Learners at several sites can be gathered together to form a class where previously none was feasible. This means that ITV can help preserve four-skill, first- and second-year instruction in less commonly taught languages (LCTLs) in large, multicampus institutions in which they might otherwise not be offered.

**Applying the ITV Model Across Systems**

The technology of ITV systems varies considerably from institution to institution, and these differences, though small, may constrain instructors’ choices in important ways. A short summary of these differences follows.

Video quality in ITV systems transmitting compressed video over integrated services digital network (ISDN) lines varies widely, but even the highest quality ISDN is not as clear as full-motion video. In terms of instructional strategies, this would mean that any activity depending on video clarity, such as reading on screen or distinguishing visual characteristics of an on-screen object or person, would have to be used with caution.

Not all ITV systems are created equal. Videoconferencing systems, for example, have significant limitations because it is often impossible to mix or compose signals from different sources into a single split-screen image that is visible to everyone, as in Figure 1 showing a drawing displayed at one site that shares a split screen with a student at another site. For example, in the Hawai’i Interactive Television System (HITS), signals are sent from multiple sources—such as cameras at different sites, visual presenters (document cameras), computer displays,
or video player—to a central control board where they are selected or mixed and retransmitted as a program signal.

Figure 1
A Drawing at One Site Shares a Split Screen with Students at Another Site

Since videoconferencing technology cannot accommodate mixed program signals, instructional strategies relying on mixing images on screen may have to be modified in a videoconferencing environment so that images are viewed alternately. This seemingly minor difference may have a noticeable effect on the success of communicative activities that depend on the display of multiple visual elements, such as the activity seen in Figure 1. For this reason, full-motion interactive television enabling mixed program signals is the preferred technology for video-based distance education.

THE WORLD WIDE WEB

Synchronous Versus Asynchronous Technologies

In terms of its advantages and disadvantages for distance education, the Web is very different from ITV, especially in the context of language instruction. One difference is in the Web’s ability to support both synchronous and asynchronous communication technologies. Synchronous technologies, such as chat, demand that all parties to the communication be present at the same time. Asynchronous technologies, such as Web forums (also called threaded discussions or bulletin boards), allow users to post and respond to messages at any time. Interactions in asynchronous environments may occur at almost synchronous speed, with postings and responses appearing in quick succession, or may be stretched out over time, with parties checking in and adding responses after some delay.

In comparison with asynchronous technologies, synchronous technologies more closely approach real-time face-to-face interaction and fit more closely Keegan’s 1996 definition of virtual education. Currently, synchronous Web-based technologies seem to be favored as bases for building communicative environments, as evidenced by the greater amount of attention they receive in studies of computer-mediated communication (CMC) in language learning. Studies on the relationship between CMC and language learning tend to focus on samples of
student chat or other synchronous text-based CMC (Beauvois, 1992, 1998; Kelm, 1992; Kern, 1995; Lamy & Goodfellow, 1999; Ortega, 1997; Pellettieri, 2000; Warschauer, 1997). CMC using synchronous technologies is assumed theoretically to be linked with face-to-face conversation in a way that asynchronous technologies are not, as in Payne and Whitney (2002), where a direct connection is drawn between the experimental condition of synchronous computer-based chat and spontaneous conversational speech. But given that synchronous technologies may not always be the best choice as communicative tools in exclusively Web-based distance instruction, especially across wide geographic areas, the current emphasis on synchronous technologies in the literature seems too limiting. In light of second language acquisition studies that show increased lexical density and complexity of speech with increased planning time (Mehnert, 1998; Ortega, 1999), asynchronous communication technologies deserve more attention than they currently receive.

**Bandwidth**

Many Web users still access the Web via telephone modems, but, even for users with higher-speed connections, the Web is relatively limited in its transmission capacity and is unable to offer anything approaching ITV’s replication of the face-to-face communicative environment of the traditional classroom. Streaming media technology has advanced greatly, but, as of this writing, it is still not practical for many learners to be brought together synchronously on the Web for classroom-type instruction including live audio and video with two-way interactivity such as is found on ITV. While audio- and videoconferencing software is used in some classes, performance tends to be poor, with fuzzy audio and breaks and delays in transmission, especially if users are dialing up. Streaming technologies can adequately support one-way delivery in teacher-fronted instructional settings, but the overall quality of Web-based audio- and videoconferencing is not satisfactory for use in language classes, where audio quality is critical, both for language input from the instructor or other sources and for student-to-student communication.

Asynchronous audio- and video-messaging technologies for the Web enabling forums or bulletin boards where participants leave posted audio or video messages for one another are progressing quickly but are even less developed than synchronous technologies. Since, at this time, synchronous and asynchronous technologies facilitating transmission of speech are not highly developed, Web-based environments featuring communicative language use cannot be depended on as a primary means of directly fostering development of students’ speaking skills.

Various techniques have been tried to overcome the mismatch between the Web and developing speaking skills. Some courses have tried relying on telephone contact with the instructor or a tutor or the use of synchronous voice messaging technology such as Cool Talk, Internet Meeting, Internet Phone, and Internet Chat. For a course reaching across multiple time zones, these technologies are clearly impractical as the chief medium for speaking practice.
Fitting Web Technologies to Real-world Distance Education Needs

The use of synchronous technologies forces the scheduling of interactions at certain times, which is a problem if participants are scattered across multiple time zones, as they might be, for example, in a Web-based class drawing students from across the country or even the globe. Therefore, synchronous technologies are generally more appropriate for use in Web-based courses restricted to students from one geographical area or in traditional classroom courses as a tool for distributed learning, that is, learning offered to students through more than one delivery medium, with one usually being traditional classroom instruction. An example is online chat scheduled several times a semester for members of the same university language class.

In contrast to ITV, Web-based technologies are relatively inexpensive, at least in terms of hardware. To the extent that students can be expected to provide their own means of access to the Web, capital expenses are limited to server and network hardware and software. There is no large-scale capital expense comparable to the construction of ITV studio classrooms at multiple sites, although human resources required for Web-based development, such as competitive salaries for good programmers, may be costly.

The portability of the Web means that it is suitable not only for intercampus delivery, but also for interinstitutional and individual delivery, that is, the offering of courses by one institution for another institution or for individuals from outside the institution. Also unlike ITV, there is no need to consider limitations on the number of remote sites. However, this does not imply that an unlimited number of students may be served since human factors still enter into determining the optimal size of the learning community and the ideal student/teacher ratio. For instance, given that one would expect an effective instructor to respond personally and fully to all the online students, the teacher’s available time and energy would place a limit on the number of students one should have in a Web-based language class.

On the Web, the significance of geographical location is greatly reduced; learners may study at home, and, if the Web-based course is asynchronous, there is no requirement that all the students in a course log on at the same time. In fact, as long as the use of synchronous tools such as live chat (i.e., a messaging device allowing multiple users to gather in one or more virtual “rooms” to exchange messages in real time) is restricted to a few instances per semester, even students scattered across the globe may be persuaded to take part when synchronous activities are scheduled. So, while the Web has certain limitations of application, it does offer global accessibility.

Given the current state of the World Wide Web and its probable direction of development, exclusively Web-delivered instruction is probably not appropriate for the beginning levels of language study. With little or no foundation in the language, beginning learners have special needs for instruction in the skills of listening and speaking. Ideally, they should receive ample ongoing, real-time support from a readily available instructor or the functional equivalent. At present the Web
is unable to facilitate such support. Instead, exclusively Web-based delivery is appropriate for skills other than speaking and is especially suited to higher levels of language study where learners have established a foundation of reading and writing skills they can use independently as a means for two-way communication.

In the context of language instruction, it appears that Web-based distance education offers the strongest advantages for the teaching of languages in which learners with specialized needs for advanced instruction in skills other than speaking are widely scattered on the ground, even across institutional boundaries. Consequently institutions that offer advanced classes in less commonly taught languages (LCTLs) can deliver instruction to individuals as well as at institutions where advanced instruction might otherwise not be available. For some LCTLs, Web-based instruction may represent the only possibility for pulling together sufficient numbers of learners to make an advanced class viable at all. Given this potential for bringing widely scattered learners together at relatively low cost, Web technology will probably become a significant delivery medium for advanced language instruction in skills other than speaking in the near future.

The interaction between Web-based technologies and real-world distance education needs suggests that exclusively Web-based language courses in the future are likely to feature learners scattered across multiple time zones, learning less commonly taught languages, and using asynchronous technologies as their primary tools for communication.

DISTANCE EDUCATION AND DISTRIBUTED LEARNING

If, as noted above, distance education technologies are best fitted to certain real-world distance education needs, other needs—for example, beginning language students’ need for face-to-face communication, or its virtual equivalent, to develop speaking skills—may not be adequately addressed by Web-based technologies at this time. Nevertheless, distance education technologies offer strengths that can be incorporated in nondistance instructional contexts. All education, not just distance education, has been revolutionized by the availability of electronic resources. The boundaries between distance education and traditional education are dissolving as both distance and nondistance classes make use of multiple technologies, especially the Web, for delivering educational resources—hence the term “distributed learning.”

Distributed learning is an instructional model that allows instructor, students, and content to be located in different, noncentralized locations so that instruction and learning occur independent of time and place. The distributed learning model can be used in combination with traditional classroom-based courses, with traditional distance learning courses, or it can be used to create wholly virtual classrooms. Saltzberg and Polyson (1995), cited in Bowman (1999)

Distributed learning models that combine different media to deliver instructional resources are increasingly common. Some of these are detailed below, with particular reference to language instruction.
ITV Plus Web-based Delivery

As noted above, ITV is a capital-intensive medium of instruction. At the same time, more disciplines are making use of ITV resources, and airtime is at a premium. Restricting ITV delivery to a few hours a week and “offloading” appropriate instructional activities to the Web allow an institution to economize on-air time. In the language instruction context, during ITV airtime the focus is most logically placed on speaking and listening, while, in the Web portion, text-based activities, and possibly listening, can be highlighted. While such a model can help alleviate cost issues associated with ITV delivery, like ITV, it falls short of providing global accessibility. Another liability of the “mixed delivery” model is its limited flexibility. Articulation from ITV to Web and back again on an almost daily basis requires strict adherence to a schedule, not to mention extremely meticulous planning and preparation—which must itself be factored as a cost.

Web Plus Offline or Independent Learning

Yet another element that may be introduced in a distributed learning “mix” is independent or “offline” learning. In this model of distributed learning, rather than delivering a steady stream of learning activities on an ongoing basis, the provider of instruction focuses on a process of preparing students for independent learning activities and then following up on those activities. For instance, advanced Web-based courses in Chinese, Japanese, and Korean at the University of Hawai‘i integrate independent use of a CD-ROM designed for self-instruction. After completing an initial sequence of preparatory activities at the course web site, students use the CD-ROM offline, then return to the class web site for follow-up and communicative tasks with classmates. A case study of this course (Fleming, Hiple, and Du, 2002) showed individual student improvement based on compared performance measures at the beginning and the end of the course as well as high student satisfaction reflected in course evaluations, questionnaires, and interviews.

Further Developments in Distributed Learning

Distributed learning is becoming a point of convergence between traditional classroom instruction and distance education as more and more traditional classroom instructors offload portions of instructional activities to the Web. In some cases, Web-based activities, whether independent (e.g., reading assigned web sites to obtain information) or group-based (e.g., threaded discussion), supplant classroom time. In this model, of course, learners do have face-to-face time in the classroom, and so there is ample opportunity for treating listening and speaking skills in a communicative format. This face-to-face advantage is lacking in the strictly Web-based courses described above.

As models for distributed learning develop further, models combining the advantages of Web-based instruction and face-to-face contact are coming into use even in distance education situations by distributing the face-to-face portion of instruction among multiple tutors, each situated at one of several geographically
separated sites. In such a model, a Web-based course serves as a central point of contact between students and instructor who are separated by geographic distance. Students make full use of books and other media for offline independent learning. However, in addition, as an integral part of the Web course, students are paired with a target-language-speaking informant in their locale, recruited especially for the course and trained in a series of Web-based and telephone tutorials to engage in task-based speaking activities with small groups or individual students at specific points in the instructional sequence. The tutors are asked to engage in very specific tasks with the students and are directed to focus to the greatest extent possible on communication, rather than on language forms, during sessions with students. Students are directed to reserve questions about language forms (i.e., grammar and vocabulary) for the Web-based instructor. In this way, these questions and answers can be shared with all the students in a “grammar clinic” threaded discussion. Use of this model, combining the accessibility of distance education with the advantages of face-to-face contact, enables the Web to serve as the chief medium of language instruction even at beginning and intermediate levels, for which the Web alone is not sufficient at present.

An instructional model like the one described above is in development at the University of Hawai’i. Instruction is distributed across three components: online instruction, offline independent learning, and activities with a local tutor. Elements of these three components of the University of Hawai’i model are shown in Figures 2, 3, and 4.

Each element of online instruction fulfils a distinct need in the language learning experience. The social interaction area fosters a sense of online community, which is important for Web-based courses, as student feedback has shown (Fleming, Hiple, and Du, 2002). Automated Web-based exercises take advantage of the computer’s potential as the ultimate “patient tutor” often referred to in literature on CALL (Levy, 1997). Skill-getting activities provide the student with initial exposure and opportunities for rudimentary use. Skill-using activities are more integrative, featuring language embedded in real-world situations such as commercial transactions. Online modelling provides students with a chance to practice language from the same communicative task they will carry out in the tutoring session that follows. Most importantly, person-to-person Web-based communication provides two important kinds of opportunities for learners: the chance to get answers to questions and problems they may encounter during offline independent work or the automated exercises and the chance to actually practice—using voice, text, or a combination of the two—the language they have been learning.

The time commitment required for students in the distributed learning model is estimated to be roughly equivalent to that invested in a traditional face-to-face course. In addition to the 2 to 3 hours students spend online with the instructors, they spend approximately 5 hours in offline independent study using texts, videotapes, audio CDs, and multimedia CD-ROMs, and meeting with a local study partner to practice writing and speaking. These elements of offline independent study are detailed in Figure 3.
Figure 2

Elements of Online Instruction Merging Students at All Sites

<table>
<thead>
<tr>
<th>Site 1</th>
<th>Site 2</th>
<th>Site 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>⇓</td>
<td>⇓</td>
<td>⇓</td>
</tr>
</tbody>
</table>

### WEB COURSE

**SOCIAL INTERACTION AREA** (builds learning community)
News, assignments, schedules, social message boards

### AUTOMATED WEB-BASED EXERCISES

Students work through exercises and receive automated feedback.

- **SKILL-GETTING ACTIVITIES**
  Content focuses on exposure to and initial use of language.

- **SKILL-USING ACTIVITIES**
  Content focuses on use of language in simulated real-world situations.

- **ONLINE MODELING**
  Content focuses on modeling language to be used in communicative activities in live tutoring sessions.

### PERSON-TO-PERSON WEB-BASED COMMUNICATION

Students and teachers interact via postings in various types of forums, text-based and/or with recorded voice.

- **SMALL GROUP**
  Students from all campuses are combined and recombined in small groups for communicative activities, such as role-plays or information gap activities.

- **GENERAL FORUM**
  All students and the teachers interact in one large space to discuss grammar, solve problems, etc.
Live tutoring sessions, the third critical component of the distributed learning model, are scheduled for small groups of students twice a week for 1 hour each time to fit at a logical point in the sequence of instruction. Tutors spend an additional 4 hours per week shadowing student interaction online, reporting to the instructors on students’ progress in the tutoring sessions and areas in which they need improvement, and being guided and trained by the instructors online and/or by telephone (see figure 4).
In the distributed learning model described above, the three components interact in a cycle as the learner moves from one component to the other. In a first-year Chinese course under development at the University of Hawai’i using this model, this rotation from one component to another is visible in the sequence of steps featured in Figure 5—the instructional plan for a one-week unit (Week 11), first semester, Chinese 101.

Figure 5
Typical Sequence of Instructional Activities

网讯 = online instruction merging students at all sites
人 = activities with local tutor
独 = offline independent and student-student learning

<table>
<thead>
<tr>
<th>View schedule of tasks.</th>
<th>Listening/Speaking skill-getting</th>
</tr>
</thead>
<tbody>
<tr>
<td>观看任务安排。</td>
<td>周一</td>
</tr>
<tr>
<td>View Show No. 7 of Say It in Chinese (video, approx. 15 minutes).</td>
<td></td>
</tr>
<tr>
<td>研究第一单元5a页（第99页，课本，U5A.HTM在CD-ROM上）的单词和短语。</td>
<td></td>
</tr>
<tr>
<td>做在线技能获取活动的听力/口语部分；获得自动反馈。活动包括：</td>
<td></td>
</tr>
<tr>
<td>听并点击你听到的货币面额。</td>
<td></td>
</tr>
<tr>
<td>听并点击你听到的金额。</td>
<td></td>
</tr>
<tr>
<td>听取店主的总金额，并使用多个点击来选择应支付的适当金额。</td>
<td></td>
</tr>
<tr>
<td>分享问题与教师和同学在一般论坛中。</td>
<td></td>
</tr>
<tr>
<td>解答对话谜语，第5a单元，第100页。</td>
<td></td>
</tr>
<tr>
<td>自我检查对话谜语通过聆听对话的正确版本来完成，在在线技能获取活动中。</td>
<td></td>
</tr>
<tr>
<td>做听力理解练习的学生实验室工作簿，第67-70页。</td>
<td></td>
</tr>
<tr>
<td>自我检查听力理解练习通过查看PDF文件中的答案来完成，在在线技能获取活动中。</td>
<td></td>
</tr>
</tbody>
</table>

听与说

制作Dialogue puzzles in the listening/speaking book, p. 100.

制作Dialogue puzzles in the listening/speaking book by listening to correct versions of the dialogues in an online skill-getting activity.

做listening comprehension exercises in the student lab workbook, p. 67-70.

自我检查listening comprehension exercises by viewing the key on a PDF file in an online skill-getting activity.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do online skill-using listening activity; get automated feedback.</td>
<td><strong>Tuesday-Wednesday</strong></td>
</tr>
<tr>
<td>Activity is: Listen to the shopkeeper’s total, click to pay, and</td>
<td></td>
</tr>
<tr>
<td>receive change. Based on whether or not the change is correct,</td>
<td></td>
</tr>
<tr>
<td>choose an appropriate response. Study online modeling of</td>
<td></td>
</tr>
<tr>
<td>listening/speaking activities to prepare for tutoring session.</td>
<td></td>
</tr>
<tr>
<td>Modeling includes appropriate images and sound files for the activity</td>
<td></td>
</tr>
<tr>
<td>“Selling Numbers” in Unit 5a in the Teacher’s Activity Book for</td>
<td></td>
</tr>
<tr>
<td>Listening and Speaking. The model allows students to take one side or</td>
<td></td>
</tr>
<tr>
<td>the other in a structured dialogue.</td>
<td></td>
</tr>
<tr>
<td>In a general forum, check comprehension of the modeling you</td>
<td></td>
</tr>
<tr>
<td>have just heard by answering teacher prompts.</td>
<td></td>
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<tr>
<td>In a room with a computer with projection capability, review</td>
<td></td>
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<tr>
<td>modeling of activities with tutor. Under the tutor’s guidance, do</td>
<td></td>
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<tr>
<td>communicative activities from activity book with peers; prepare for</td>
<td></td>
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<tr>
<td>voice-board posting. Follow up on the tutoring session by doing</td>
<td></td>
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<tr>
<td>listening/speaking activities with classmates on a voice board in</td>
<td></td>
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<tr>
<td>a general forum, with teacher feedback. Sample teacher prompt:</td>
<td></td>
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<tr>
<td>During yesterday’s speaking activities, what was the most useful</td>
<td></td>
</tr>
<tr>
<td>thing you learned? Please repeat it here.</td>
<td></td>
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</tbody>
</table>

| Work through initial section(s) of the reading/writing book, p 109-117 | **Thursday**     |
| (up to dialogues). With a partner from your small group, practice the |
| literacy dialogues of the reading/writing book (p. 117). Share        |
| questions and problems about the reading/writing book with teachers    |
| and classmates in a general forum. Do communicative reading activities |
| with five partners in a text-based small group forum. View teacher    |
| feedback. Activity is: From an illustrated price list, choose two     |
| items. Tell your partners the amount you spent, and they will pick    |
| which two items you have bought. Check each other’s answers.          |                    |

| Do form-focused exercises (including summary) in the reading/writing   | **Friday**        |
| book (p. 117-120) and in the listening/speaking book (p. 102). Meet   |                    |
| with the tutor to do supervised peer checking of activities from the   |                    |
| student reading/writing book (p. 117-120) and classroom reading/writing|
| activities from the teacher’s activity book for reading/writing (p.    |                    |
| 78). Do closed-ended writing task in a text-based small group forum:  |                    |
| Read and write amounts of money for each other in Chinese characters, |                    |
| and check each other’s comprehension using numeric notation.          |                    |
| Participate in language clinic conducted by the teachers in a general |
| forum, based on errors that have appeared in student postings.        |                    |
| Take test (multiple choice, fill in blanks, write short paragraphs).  |                    |
The sequence of activities in the course, rotating from web site to independent study and back again and integrating live tutoring sessions, is carefully designed to carry students from their initial exposure to new language (skill-getting) through productive use of the language (skill-using). In the context of beginning language instruction, where balanced four-skills instruction is of particular importance, this distributed-learning configuration allows instruction at a distance while addressing the deficiencies of exclusively Web-based technologies by providing for live communicative practice in the speaking skill.

**MAKING CHOICES FOR L2/FL DISTANCE EDUCATION**

As indicated in the preceding sections, evolving definitions of distance education and of distributed learning point the way toward different choices for ITV-based, Web-based, and combined-delivery modes for second and foreign language instruction in different situations. Among the conclusions we can draw are

1. Only *electronically based* modes of delivery enabling *bidirectional communication* are appropriate for effective, communicative language instruction.
2. Despite its relatively faithful reproduction of the communicative environment of the traditional classroom, ITV is expensive and limited in the area it can reach.
3. ITV is appropriate for teaching beginning levels of less commonly taught languages within a single large, multicampus institution, especially where student populations are too small to support instruction at a single location.
4. Despite its relative economy, Web-based instruction does not (at present) adequately support instruction in speaking and, for this and other reasons, is not appropriate as an exclusive medium (i.e., without supplemental face-to-face instruction) for teaching beginning levels.
5. Web-based instruction is appropriate for advanced instruction of students with specialized needs for language development and maintenance in skills other than speaking. In some cases, the gathering together of learners across institutional boundaries to form a Web-based “learning community” may represent the only viable alternative for advanced instruction in a given language.
6. With adequate planning and preparation—and meticulous adherence to a schedule—Web-based and ITV instruction can be combined in appropriate ways to reduce ITV air time and associated expenses.
7. Independent, or “offline,” learning can be used to advantage in distributed learning models for language instruction. Models featuring independent learning must pay particular attention to preparation for independent work and to follow-up activities.
8. Models of distributed learning for distance education combining Web-based and face-to-face components have the potential to strengthen the suitability of the Web as a medium for language instruction at the begin-
ning and intermediate levels since the face-to-face component is needed to support instruction in speaking.

**WHERE DO WE GO FROM HERE?**

With the advent of the Information Age, distance-delivered education has grown exponentially in a few short years and is likely to continue to grow in the foreseeable future. What is the future of distance-delivered language education? Delivery of performance-based subjects, such as languages, presents a special challenge for distance educators and distance learners because technology in 2002 does not yet adequately support four-skill language instruction online. Where do we go from here?

Beginning students today cannot learn to speak, listen, read, and write a language effectively when the sole medium of delivery is online instruction. Therefore, distributed learning is likely to evolve creatively and with varying degrees of success until online learning can reliably support and deliver multimodal interaction to a mass audience. Distributed learning, an approach that allows instructor, students, and content to be situated in different locations and instruction and learning to occur independent of time and place and via multiple mediums of instruction, is likely to be central to any successful distance-delivered language instruction in the immediate future. There can be little doubt that language education in all of its forms—face-to-face, distance education, distributed learning—will come to feature increased use of multiple formats and technologies in daily instruction.
REFERENCES


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